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VOL. 1

U.S. Department of Agriculture

1978 BUDGET EXPLANATORY NOTES

Office of the Secretary
Departmental Administration
Office of the Inspector General
Office of the General Counsel

Agricultural Research Service
Animal and Plant Health Inspection Service
Cooperative State Research Service
Extension Service
National Agricultural Library

Economic Management Support Center
Statistical Reporting Service
Economic Research Service
Farmer Cooperative Service

Project Statements

The obligations shown in the Project Statements are based on the appropriations and activities proposed in the 1978 budget estimates. In some Project Statements the activities are further divided into subcategories, reflecting a more detailed description of the work conducted under the appropriation items.

In those accounts where prior year balances are also available for obligation during the year, such amounts are shown in a separate Project Statement.

The amounts shown in Project Statements for the past year are taken directly from the accounting records to the maximum extent possible.

Statement of Available Funds and Man-Years

A statement is included for each agency, immediately following the introductory purpose statement, to reflect all sources of funds available to the agency and to show the man-years related to each source of funds.

These statements reflect the best available information at the time these Explanatory Notes were prepared (January 1977). However, it is not possible in many instances to determine in advance the extent to which agencies may be requested to perform additional services for other Federal and non-Federal agencies or organizations. Therefore, amounts of actual reimbursements and other funds received from sources other than appropriations directly to the agency may vary from those shown in the statements.

In those cases where the funds are not appropriated (reimbursements, trust funds, transfers, revolving funds, etc.), the dollar amounts shown represent actual or estimated obligations for the year.

In some instances there may be duplication of amounts shown. This results largely from cases involving reimbursements between different agencies within the Department, and where amounts are paid from appropriations to the Working Capital Funds. There is no duplication of the man-years shown.

Fiscal Year 1978 Space Costs

In accordance with the requirements of the Public Buildings Amendments Act of 1972 (Public Law 92-313) Federal agencies are required to make payments to the General Services Administration for all GSA-controlled space which they occupy. The fiscal year 1977 Appropriations Act for the Department disallowed all increases requested in the Budget Estimates for these payments. Section 613 of Public Law 94-363, the 1977 Treasury, Postal Service and General Government Appropriation Act prohibited any agency from paying "a higher rate per square foot for rental of space and services ... than such agency included in its budget ... and for which appropriations were granted." This resulted in an estimated \$3.4 million discrepancy between the total projected GSA billings for 1977 and the Department's appropriation for space. The fiscal year 1978 Budget Estimate for space is based on the new Fair Annual Rental rate structure and includes full funding for rental payments in the Budget year.

The Explanatory Notes identify GSA space costs requiring Appropriations Act funding within the justification for each account. The following table summarizes these space costs and financing for fiscal year 1976 through 1978.

General Services Administration Space Rental

	FY 1976		FY 1977 Estimate		FY 1978 Estimate	
	Forest Service	Other USDA	Forest Service	Other USDA	Forest Service	Other USDA
	- - - -	- - - -	(Dollars in Thousands)		- - - -	- - - -
<u>Estimated Costs:</u>						
Total direct and in- direct payments to GSA (based on current and projected billings) for base space	\$13,872	\$38,482	\$14,666	\$41,860	\$19,344	\$52,480
<u>Financing:</u>						
Direct Appropriation ..	13,213	32,781	13,771	33,446	17,155	44,068
Corporate funds	- -	2,493	- -	2,509	- -	2,821
Trust funds and reimbursements	659	3,208	895	2,465	2,189	5,591
Total	<u>13,872</u>	<u>38,482</u>	<u>14,666</u>	<u>38,420</u>	<u>19,344</u>	<u>52,480</u>
Estimated GSA billings in excess of payment restrictions under Section 613 of P. L. 94-363						
	- -	- -	- -	3,440	- -	- -

Pay Costs in the 1978 Budget

The 1977 and 1978 columns of the 1978 Budget reflect civilian pay raises which were provided by Executive Order 11941. In addition, actual and estimated 1977 wage board increases are shown in the budget.

Executive Order 11941, effective the first pay period in October 1976, provided graduated salary increases for all General Schedule and related Federal employees. Wage board costs are based upon prevailing private wage rates in a given area and are adjusted periodically by law. The 1977 column of the 1978 Budget contains estimated wage board increases through September 30, 1977.

These justifications include 1977 pay costs and pay cost supplementals as adjustments to the 1977 appropriations in determining the base amounts for the 1978 changes. In this manner, these mandatory 1977 costs are not brought into the discussion of the 1978 increases. The following table reflects the total cost of the raises for 1977, the amount absorbed in 1977, the 1977 supplemental request submitted with the Budget, and the annualization of the October pay raise in 1978. The individual schedules reflect the amounts for each account.

	USDA (Excluding Forest Service)	Forest Service	Total
	(Dollars	in Thousands)	
<u>1977 Increased Costs:</u>			
Executive Order 11941	\$64,225	\$21,959	\$86,184
Wage Board	2,611	3,640	6,251
Administrative Action	43	-	43
Total, 1977 Costs	<u>66,879</u>	<u>25,599</u>	<u>92,478</u>
<u>Financing:</u>			
Amounts absorbed by administrative action	-15,745	-8,548	-24,293
Amounts absorbed by transfers between accounts and increases in limitations requiring Congressional action	<u>-1,228</u>	<u>-</u>	<u>-1,228</u>
1977 Supplemental for pay costs	49,906	17,051	66,957
<u>1978 Increased Costs:</u>			
Direct appropriation	62,169	22,183	84,352
Increase in administrative expense limitations	<u>(3,020)</u>	<u>-</u>	<u>(3,020)</u>
Total, 1978 increase for pay costs	<u>(65,189)</u>	<u>(22,183)</u>	<u>(87,372)</u>

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OFFICE OF THE SECRETARY

Purpose Statement

The Secretary of Agriculture, assisted by the Deputy Secretary, the Assistant Secretaries, and members of their immediate staffs, directs and coordinates the work of the Department. This includes developing policy, maintaining relationships with agricultural organizations and others in the development of farm programs, and maintaining liaison with the Executive Office of the President and members of Congress on all matters pertaining to agricultural policy.

The administrative law judges hold rule making and adjudicatory hearings and issue initial decisions and orders, and the Judicial Officer serves as final deciding officer in regulatory proceedings.

The general authority of the Secretary to supervise and control the work of the Department is contained in the Organic Act (7 U.S.C. 2201-2202). The delegation of regulatory functions to Department employees and authorization of appropriations to carry out these functions is contained in 7 U.S.C. 450c-450g.

Geographic Location. The Secretary's Office and the offices financed from this appropriation are all located in Washington, D.C.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

	Actual 1976	Man- Years	Estimated Available, 1977	Man- Years	Budget Estimate 1978	Man- Years
	Amount		Amount		Amount	
Office of the Secretary ...	\$2,342,100	47	\$2,337,000	50	\$2,496,000	50
Obligations under other						
USDA appropriations:						
For travel and other						
expenses of administra-						
tive law judges in con-						
ducting regulatory hear-						
ings	28,000	--	22,000	--	22,000	--
Consideration of formal						
employee grievances and						
adverse action appeals						
for agencies of the De-						
partment	10,000	--	--	--	--	--
Agricultural Research						
Service for pesticides						
coordination	--	--	158,000	3	158,000	3
Environmental Quality ...	--	--	191,000	5	191,000	5
Board of Contract and						
Forest Appeals	243,000	6	243,000	6	243,000	6
Combined Forest Pest Pro-						
gram Board	196,000	5	200,000	5	200,000	5
USDA Safety Advisory						
Committee	12,000	--	12,000	--	12,000	--
Reimbursable Details a/...	--	--	1,394,492	51	1,394,492	51
Working Capital Fund:						
Central defense programs	60,440	1	70,000	1	74,000	1
Total, Other USDA						
Appropriations	549,440	12	2,290,492	71	2,294,492	71
Total, Agriculture Appro-						
priations	2,891,540	59	4,627,492	121	4,790,492	121
Other Federal Funds	30,000	1	5,000	--	--	--
Non-Federal Funds	700	--	1,000	--	1,000	--
Total, Office of the						
Secretary	2,922,240	60	4,633,492	121	4,791,492	121

	1976 Actual	1977 Estimated	1978 Estimated
End of Year Employment:			
Permanent Full-time	98	107	107
Other	2	4	4
Total	<u>100</u>	<u>111</u>	<u>111</u>

a/ In addition, 13 additional man-years at a cost of \$219,692, are expected to be detailed to the Office of the Secretary from other USDA agencies.

OFFICE OF THE SECRETARY

Appropriation Act, 1977	\$2,267,000
Budget Estimate, 1978	<u>2,496,000</u>
Increase in Appropriation	+229,000

Adjustments in 1977:

Appropriation Act, 1977	\$2,267,000	
Activities transferred from the Office of Communication a/	+16,000	
1977 Supplemental Appropriation for pay costs .	<u>+54,000</u>	
Adjusted base for 1978		2,337,000
Budget Estimate, 1978		<u>2,496,000</u>
Increase over adjusted 1977		+159,000

a/ On October 19, 1976, functions relating to the publication of "Agriculture Decisions" were transferred from Office of Communication to Office of Administrative Law Judges. Actual transfer of funds of \$16,000 was made in 1977. This represents the full annual cost of this activity.

SUMMARY OF INCREASES
(On basis of adjusted appropriation)

	1977	Increases	1978 Estimate
GSA space	\$290,000	+\$85,000	\$375,000
Other operating costs:			
Postage	81,000	+ 22,000	103,000
Telecommunications	141,000	+ 18,000	159,000
Travel	136,000	+ 17,000	153,000
Working Capital Fund services .	(252,000)	+ 17,000	17,000
All other	<u>1,689,000</u>	- -	<u>1,689,000</u>
Total available	<u>2,337,000</u>	<u>+159,000</u>	<u>2,496,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1976	1977 (Estimated)	Increases	1978 (Estimated)
1. Program and policy direction and coordination:				
(a) Office of the Secretary and Deputy Secretary	\$1,183,574	\$1,189,531	+\$91,000(1)	\$1,280,531
(b) Assistant Secretaries	682,377	663,335	+58,000(1)	721,335
2. Regulatory hearings and decisions	444,507	484,134	+10,000(2)	494,134
Unobligated balance	31,642	- -	- -	- -
Total available or estimate	2,342,100	2,337,000	+159,000	2,496,000
Transfer to OMF, OA and ERS	+499,000	- -		
Transfer from COMM (net) ...	-5,100	-16,000		
Proposed supplemental for pay increase costs	- -	-54,000		
Total, appropriation	<u>2,836,000</u>	<u>2,267,000</u>		

EXPLANATION OF PROGRAM

This appropriation provides funding for the following activities:

Program and Policy Direction and Coordination. This activity includes the Secretary, Deputy Secretary, Assistant Secretaries and their immediate staffs who provide top policy guidance for the Department.

Regulatory Hearings and Decisions. This activity includes the work of the Administrative Law Judges and of the Judicial Officer. The Administrative Law Judges carry out the provisions of the Administrative Procedure Act relating to the holding of hearings (5 U.S.C. 556). Hearings are held in connection with prescribing of new regulations and orders, and on disciplinary complaints filed by the Department, or on petitions filed by private parties asking relief from some action of the Department. The Office of Administrative Law Judges is also responsible for preparing "Agriculture Decisions," a monthly publication containing decisions in connection with all quasi-judicial functions and administrative hearings of the Department. The Hearing Clerk Unit, which operates under the Office of Administrative Law Judges is responsible for receiving, filing and acknowledging the receipt of complaints, petitions, answers, briefs, arguments, and other documents filed with the Department of Agriculture in connection with quasi-judicial and administrative proceedings under various regulatory laws administered by the Department.

The Judicial Officer renders final administrative decisions in regulatory proceedings.

JUSTIFICATION OF INCREASES

- (1) An increase of \$149,000 for Program and Policy Direction and coordination consisting of:

	<u>Secretary and Deputy Secretary</u>	<u>Assistant Secretaries</u>
(a) <u>Space rental costs pursuant to P.L. 92-313</u>	\$49,000	\$27,000
(b) <u>Working Capital Fund services</u>	10,000	6,000
(c) <u>Other operating costs</u>	32,000	25,000

Need for Increase. Expenditures in the Office of the Secretary for essential services such as postage and telecommunications continue to increase substantially each fiscal year and are largely uncontrollable in nature. For example, telecommunications costs continue to rise at an estimated rate of 10 percent a year. As the Office of the Secretary operates within very stringent budget constraints, funds are not available within which these cost increases can be absorbed. An increase of \$22,000 is therefore requested for postage costs and \$18,000 for telecommunications.

An additional \$17,000 is requested to restore the decrease made in the 1977 Appropriation Act for increased travel costs for the Assistant Secretaries. These funds are needed to finance increased costs attributable to revised per diem rates and other travel allowances authorized by the Travel Expense Amendments Act of 1975 (Public Law 94-22).

- (2) An increase of \$10,000 for Regulatory Hearings and Decisions consisting of:
- (a) An increase of \$9,000 for space rental costs pursuant to P.L. 92-313.
 - (b) An increase of \$1,000 for Working Capital Fund services

STATUS OF PROGRAM

PROGRAM AND POLICY DIRECTION

The formulation and direction of policy and programs is carried out by the Secretary of Agriculture, Deputy Secretary, Assistant Secretaries, staff advisors, and related supporting staff. Under the direction of the Secretary, the Immediate Office of the Secretary exercises broad executive responsibility for the development of national agricultural policies and the general management of the Department of Agriculture within the framework of laws enacted by the Congress and regulations promulgated by the President. It coordinates the activities of the Department's constituent agencies into a unified agricultural program, designed to achieve, efficiently and economically, the goals for American agriculture established by the Congress and the President. The Department's programs, in turn, are coordinated with the activities of other Government departments and agencies both in domestic and foreign affairs, to ensure consistency in policies and methods in governmental administration.

In fulfilling these responsibilities, the Immediate Office of the Secretary provides general leadership and direction to the Department's constituent agencies. Agricultural policies and plans are formulated and adapted to the complex changing conditions in the Nation's economy. The progress of agricultural programs is continuously evaluated to ensure that accomplishments are consistent with the Department's prescribed objectives and with established standards of sound management. Program and management problems with special significance and broad implications are given careful attention to assure their constructive resolution in a manner consistent with overall policy.

REGULATORY HEARINGS AND DECISIONS

The Office of Administrative Law Judges consists of five Judges who, pursuant to designation of authority, conduct rulemaking and adjudicatory hearings throughout the United States in proceedings subject to the Administrative Procedure Act (7 U.S.C. 551 *et seq.*), and issue initial decisions and orders in adjudicatory proceedings. Said decisions become final decisions of the Secretary unless appealed to the Secretary's Judicial Officer by a party to the proceeding. In addition the Judges perform related duties which are not inconsistent with their duties under the Administrative Procedure Act.

The table below indicates the number of hearings held by Administrative Law Judges during the past three fiscal years, and the case dispositions, consisting of initial decisions after hearings, initial decisions upon default and final consent orders following hearings or upon waiver of hearing.

	FY 1974		FY 1975		FY 1976 a/	
	<u>Hear-</u> <u>ings</u>	<u>Dispo-</u> <u>sitions</u>	<u>Hear-</u> <u>ings</u>	<u>Dispo-</u> <u>sitions</u>	<u>Hear-</u> <u>ings</u>	<u>Dispo-</u> <u>sitions</u>
Agricultural Marketing Agreement Act, 1937						
Adversary	5	5	8	9	10	7
Rulemaking	23	-	16	-	20	-
Packers & Stockyards Act	10	107	16	123	36	155
Perishable Agricultural Commodities Act	10	23	8	28	4	37

PASSENGER MOTOR VEHICLES

The Budget Estimates for 1978 continue the authority to replace, if necessary, one automobile used by the Secretary and his staff.

As of December 1, 1976, only one Department-owned automobile was operated in the District of Columbia (1971 Ford Custom 500). Two vehicles are rented on an annual basis for use by the Secretary of Agriculture and the Deputy Secretary.

DEPARTMENTAL ADMINISTRATION

Purpose Statement

The Departmental staff offices provide staff support to the top policy officials of the Department and overall direction and coordination to the work of USDA's program agencies to ensure the efficient and effective management and operation of the Department.

Activities carried out by Departmental staff offices include:

- Overall administration of the budgetary and fiscal affairs of the Department, leadership in planning and administering the Department's management improvement program, and direction of the Department's program evaluation and planning activities;
- Staff and support services to agency programs in the management of real and personal property, procurement, contracts, and other administrative functions;
- Leadership in planning and operation of the Department's automatic data processing resources;
- The personnel management program of the Department;
- Coordination and supervision of the Department's equal opportunity responsibilities; and
- General direction and supervision of the Department's information program.

These functions are performed under the general authority of the Secretary to supervise and control the work of the Department as contained in the Organic Act (7 U.S.C. 2201-2202).

Central Services. In addition to the staff activities indicated above, the Departmental staff offices provide certain central services to the agencies of the Department. These services are financed under the Department's Working Capital Fund (7 U.S.C. 2235) and include personnel, payroll, voucher payments, billings and collections, supply, reproduction, visual information and computer services. A detailed explanation of these activities is presented at the end of this section in the Working Capital Fund section.

Geographic Location. The staff offices financed from this appropriation are all located in Washington, D. C. Central services financed through the Working Capital Fund are provided by the National Finance Center located in New Orleans and by the Department's computer centers located in Washington, Kansas City, New Orleans, St. Louis, and Fort Collins, Colorado.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

	Actual 1976	Man- Years	Estimate Available, 1977	Man- Years	Budget Estimate 1978	Man- Years
	Amount		Amount		Amount	
Departmental Administration ...	\$12,552,900	388	\$13,724,000	444	\$14,292,000	444
Obligations under other USDA appropriations:						
Health services for agencies of the Department	49,902	3	50,000	3	50,000	3
Consideration of formal employee grievances and adverse action appeals	45,559	2	55,200	2	55,200	2
Upward Mobility Program	66,082	4	83,800	4	83,800	4
Cape Canaveral Bicentennial Exhibit	230,000	--	45,000	--	--	--
USDA Newsletter	52,000	2	45,000	2	45,000	2
Consolidated GPO Orders	150,000	--	325,000	--	325,000	--
National Finance Center	6,640,388	294	--	--	--	--
Visitor Information Center ...	30,000	2	30,000	2	30,000	2
U. S. Agricultural Service Centers program	176,701	4	91,207	3	91,207	3
Executive Development Program	77,773	3	97,300	3	97,300	3
Special projects for SCS	--	--	672,000	--	712,000	--
Space and contracts for exhibits	--	--	300,000	--	300,000	--
Departmental vacancy announcements	--	--	15,000	--	15,000	--
Honor Awards ceremony	--	--	15,000	--	15,000	--
Management support services provided by staff offices for reimbursable and working capital fund activities	1,632,000	87	1,632,000	87	1,632,000	87
Miscellaneous reimbursements	45,616	--	26,900	--	26,900	--
Working Capital Fund:						
Centralized supply, duplicating, mail and communications services	7,094,796	224	7,889,000	218	8,506,000	218
National Finance Center	8,942,142	588	15,892,000	960	17,339,000	980
Employee training programs ..	396,520	3	296,000	3	326,000	3
ADP systems	18,984,299	402	23,002,000	430	26,501,000	430
Central visual production services	2,826,599	64	2,153,000	51	2,281,000	51
Total, Working Capital Fund ..	38,244,356	1,281	49,232,000	1,662	54,953,000	1,682
Total, other USDA appropriations	47,440,377	1,682	52,715,407	1,768	58,431,407	1,788
Total, Agriculture Appropriations	59,993,277	2,070	66,439,407	2,212	72,723,407	2,232
Other Federal Funds	4,100	--	4,100	--	4,100	--
Non-Federal Funds	12,000	--	12,000	--	12,000	--
Total, Departmental Administration	60,009,377	2,070	66,455,507	2,212	72,739,507	2,232

	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
End-of-Year Employment:			
Permanent full-time	1,923	1,992	1,973
Other	<u>269</u>	<u>217</u>	<u>217</u>
Total	<u>2,192</u>	<u>2,209</u>	<u>2,190</u>

DEPARTMENTAL ADMINISTRATION

Appropriation Act, 1977	\$14,145,000
Budget Estimate, 1978	<u>14,292,000</u>
Increase in Appropriation	+147,000

Adjustments in 1977:

Appropriation Act, 1977	\$14,145,000	
Activities transferred to:		
Office of Administrative Law Judges a/	-16,000	
Environmental Protection Agency and		
Department of Defense b/	-1,078,000	
1977 Supplemental Appropriation for pay costs	<u>673,000</u>	
Adjusted base for 1978		13,724,000
Budget Estimate, 1978		<u>14,292,000</u>
Decrease under adjusted 1977		+568,000

a/ On October 19, 1976, functions relating to the publication of "Agricultural Decisions" were transferred from the Office of Communication to the Office of Administrative Law Judges. Actual transfer of funds of \$16,000 was made in 1977. This represents the full annual cost of this activity.

b/ Contract Compliance functions to be transferred to the Environmental Protection Agency and Department of Defense. No actual funds transferred in 1977. This represents the full annual cost of this activity.

SUMMARY OF INCREASES AND DECREASES

(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increases and Decreases</u>	<u>1978 Estimate</u>
For printing the yearbook of Agriculture and <u>Agricultural</u> <u>Statistics</u>	\$4,430,000	+\$326,000	\$4,756,000
GSA space rental costs	1,014,000	+86,000	1,100,000
Annualization of the pay cost increase effective in FY 1977.	673,000	+16,000	689,000
Working Capital Fund Services.. (1,238,000)		+140,000	140,000
All other	<u>7,607,000</u>	- -	<u>7,607,000</u>
Total available	<u>13,724,000</u>	<u>+568,000</u>	<u>14,292,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

	1976	1977 (Estimated)	Increases	1978 (Estimated)
1. Budget, fiscal and management	\$2,816,793	\$3,497,721	+\$75,000 (1)	\$3,572,721
2. General operations	1,210,675	1,649,217	+24,000 (2)	1,673,217
3. ADP systems	175,705	201,335	- -	201,335
4. Personnel administration	1,584,469	2,133,127	+16,000 (3)	2,149,127
5. Equal opportunity	954,262	1,439,600	+7,000 (4)	1,446,600
6. Information services	3,875,406	4,803,000	+446,000 (5)	5,249,000
Unobligated balance	1,935,590	- -	- -	- -
Total available or estimate:	12,552,900	13,724,000	+568,000	14,292,000
Transfer from OP&E	-377,000	- -		
Transfer from Judicial Officer	-10,900	- -		
Transfer to OALJ	+16,000	+16,000		
Transfer to EPA and DOD	+1,031,000	+1,078,000		
Proposed supplemental for pay costs	- -	- 673,000		
Total appropriation	13,212,000	14,145,000		

EXPLANATION OF PROGRAM

This appropriation provides funding for the following activities:

Budget, Fiscal and Management. This activity includes staff services related to formulation, presentation, and execution of the budget; fiscal policies and systems; legislative and financial reporting; planning, administering and evaluating the Department's management program; operations review and analysis; and the administration of the Department's program evaluation system. Also included are management support services in the areas of budget and finance provided to the Office of the Secretary and Departmental staff offices.

General Operations. This activity includes staff and support services to agency programs in the management of real and personal property, contracts, grants, agreements, business assistance, supply, transportation, motor vehicles, telecommunications, physical security, correspondence, records and mail, procurement and other administrative services provided to the Office of the Secretary and Departmental staff offices; and operates central supply, printing, composing, copier, mail and messenger services for agencies in Washington, D. C.

ADP systems. This activity includes leadership in designing, acquiring and utilizing the Department's ADP resources as well as operation of the Department's computer centers.

Personnel Administration. This activity includes responsibility for the personnel management program of the Department; leadership, supervision and coordination of classification and standards; salary and wage administration; employment and manpower planning; personnel and records security; standards of employee conduct; discipline; employee relations; employee appeals; employee development; program evaluation; health, safety and welfare; incentive awards; labor-management relations; personnel legislation; employee fringe benefits; equal employment opportunity programs; the Upward Mobility Program, and other personnel activities. Also included are personnel services provided to the Office of the Secretary and Departmental staff offices.

Equal Opportunity. The Civil Rights Act of 1964 and subsequent Executive Orders require program and policy direction in the development and enforcement of Departmental equal opportunity responsibilities. This involves review, analysis, and evaluation of agency programs and operations to determine compliance with policies, rules and regulations of the Department and the Federal Government. It also involves the processing of complaints of discrimination in the execution of the Department's programs.

Information Services. This activity involves general direction and supervision of all publications and other information policies and activities of the Department including the final review, illustrating, printing and distribution of publications, clearance and release of press, radio, television, and magazine materials; maintenance of central files of news and general illustration-type photographs and color slides; and the preparation and distribution of exhibits. It includes publication of the Yearbook of Agriculture, the annual report of the Secretary of Agriculture and the Department List of Publications; handling the details of distributing farmers' bulletins allotted to Members of Congress; and servicing letter and telephone requests for general information received in the Department.

JUSTIFICATION OF INCREASES

- (1) An increase of \$75,000 for Budget, fiscal and management consisting of:
 - (a) An increase of \$4,000 for annualization of pay increases effective in FY 1977.
 - (b) An increase of \$71,000 for Working Capital Fund services.
- (2) An increase of \$24,000 for General Operations consisting of:
 - (a) An increase of \$3,000 for annualization of pay increases effective in FY 1977.
 - (b) An increase of \$21,000 for Working Capital Fund services.
- (3) An increase of \$16,000 for Personnel Administration consisting of:
 - (a) An increase of \$3,000 for annualization of pay increases effective in FY 1977.
 - (b) An increase of \$13,000 for Working Capital Fund services.
- (4) An increase of \$7,000 for Equal Opportunity consisting of:
 - (a) An increase of \$2,000 for annualization of pay increases effective in FY 1977.
 - (b) An increase of \$5,000 for Working Capital Fund services.
- (5) An increase of \$446,000 for Information Services consisting of:
 - (a) An increase of \$4,000 for annualization of pay increases effective in FY 1977.
 - (b) An increase of \$30,000 for Working Capital Fund services.

- (c) An increase of \$86,000 for space rental costs pursuant P.L. 92-313.
- (d) An increase of \$316,000 for printing the Yearbook of Agriculture.

Need for Increase. The 1977 Appropriation Act provides \$1,269,000 for the printing limitation fund which pays for reprinting popular publications of the Department and the Yearbook of Agriculture. These additional funds are requested in FY 1978 to cover an anticipated 25 percent increase in the cost of printing and to maintain the level of service to Congress, Land Grant institutions and the general public.

- (e) An increase of \$10,000 for printing "Agricultural Statistics".

In fiscal year 1976, the Office of Communication's share of the cost of printing the publication "Agricultural Statistics" was \$18,000. The FY 1977 costs are estimated to be \$22,000 and FY 1978 costs are estimated at \$28,000. Additional funds are requested to catch up with the existing funding level of expenditure for this publication and to cover printing costs which are increasing at the rate of 25 percent a year.

STATUS OF PROGRAM

BUDGET, FISCAL AND MANAGEMENT

This activity includes leadership and direction in budgetary and fiscal matters, internal management of the Department, and the performance of necessary staff work such as:

Preparation of budget estimates including:

- Review and analysis of budget estimates;
- Preparation of budgetary and statistical statements and summaries;
- Consolidation of materials for the estimates submitted to the Office of Management and Budget;
- Consolidation of budget data and preparation and maintenance of the automated budget status file;
- Review and analysis of Program and Financial Plans and development of alternatives and support data for presentation to the Secretary;
- Preparation of supporting justifications for budget requests, in cooperation with the Department's agencies, for use by the Appropriations Committees of Congress in considering the President's Budget and subsequent rescission and deferral proposals; and
- Preparation and consolidation of information requested by the Budget Committees of the Congress.

Management and control of funds including:

- Allotment and apportionment of appropriated funds;
- Review of obligation and expenditure reports, particularly to assure that programs are carried out in accordance with the intent of the Congress, the requirements of the Executive Branch, and pertinent laws and regulations;
- Special arrangements, as required, for financing cooperative undertakings; and
- Analysis of Department manpower requirements.

Direction of fiscal policies and accounting systems including:

- Formulation of accounting and fiscal policies and consultation on and development of accounting systems; and
- Liaison with the General Accounting Office, the Office of Management and Budget, and the Treasury to advance financial management objectives throughout the Government.

Coordination of budgetary and operations review and analysis including:

- Cooperating with USDA agencies and top policy officials of the Department in developing USDA program objectives and providing ongoing review and coordination to determine progress in meeting these objectives; and

- Providing comprehensive analysis of program operations and related proposed reorganizations, and identifying key Secretarial issues.

Program Planning

- Develop and maintain a comprehensive integrated, mission-oriented program structure which defines Department missions, goals and objectives for the purpose of long and short-range policy and program planning;
- Coordinate, direct and conduct in-depth analysis of alternative long term goals, policies and strategies for achieving them; and
- Review agency program and financial Plan proposals for consistency with Department long-term goals and policy objectives.

Departmentwide management systems coordination and management improvement support including:

- Implementing systems and techniques for management appraisals;
- Managing Departmental forms and management reports;
- Administering Departmental directives management programs including Departmental delegations of authority;
- Providing a source of internal management expertise;
- Reviewing agency and staff office reorganization proposals;
- Preparing external management improvement reports;
- Coordinating committee activities within the Department;
- Reviewing contract proposals for management services; and
- Reviewing Departmental commercial and industrial activity.

Operation of certain central services (financed from appropriated and working capital funds) including:

- The Department's central payroll and personnel systems;
- The Department's central voucher payment system;
- The Department's central billing and collection system;
- Development of a central Departmentwide accounting system; and
- Accounting, reporting and budgetary services for the Office of the Secretary and other staff offices comprising Departmental Administration.

Legislative and Financial Reporting including:

- Review and distribution of approximately 30,000 House and Senate bills, resolutions, reports, and other legislative materials each Congress;
- Preparation and maintenance of approximately 100 legislative histories in micro-form and maintenance of the Congressional Information Service System in microfiche of all the working papers of Congress, 1970 to date;

- Tracking of over 2,000 bills of interest to USDA through the legislative process each Congress;
- Daily preparation and distribution of a Digest of Congressional Proceedings of Interest to the Department of Agriculture when Congress is in session;
- Assistance and coordination in developing a legislative program for the Department;
- Assistance and coordination in the preparation of over 1,000 legislative reports each congressional session;
- Annual publication of a Digest of Agricultural Legislation enacted each congressional session;
- Preparation of certain budget special analyses and appropriation hearing tables;
- Development of about 240 special financial reports annually, primarily in response to Congressional requests;
- Assistance and guidance to agency budget and finance staffs in major reporting areas including data on obligations by geographic location, Catalog of Federal Domestic Assistance, data on research and development activities for NIH and NSF, payments to or in aid of States and local units of government;
- Liaison with the Office of Management and Budget, other Federal agencies, and the Congress on legislative and financial reporting matters;
- Preparation of weekly report for the immediate Office of the Secretary concerning the status of Agricultural legislative proposals and selected legislation; and
- Preparation and coordination of report requests from the Congress, the general public, and others.

Various other staff services such as:

- Administration of limitations on employment, travel and personnel compensation;
- Review and appraisal of agency cost reduction validation procedures; and
- Preparation and coordination of responses to requests from members of Congress, other Federal agencies, and the general public for information about the program and financial affairs of the Department.

Selected Examples of Recent Progress

National Finance Center. The Departmentwide Central Accounting System (CAS) developed by the National Finance Center of the Office of Management and Finance was implemented on October 1, 1976 to serve 19 agencies and staff offices. These organizations employ about 6800 people and are responsible for administering a wide variety of programs from direct appropriations of \$256 million. The system also provides full accounting support to the USDA Working Capital Fund. This revolving fund will finance \$50 million in annual business-type services

to USDA agencies in 1977. Remaining USDA agencies will be converted to the CAS on a phased basis beginning October 1, 1977. In addition, the following related major centralized payment systems operating in an automated mode were implemented in the 15 months ended September 30, 1976:

- Imprest Fund -- Processes payment of reimbursement vouchers for all USDA Class A and B Imprest Fund Cashiers. Transaction volume is about 30,000 annually;
- Uniform Allowances -- Processes all initial advances and replacement allowances. Transaction volume is about 10,000 annually;
- Casual Employee Time Reports -- Calculates payments due Forest Service casual employees engaged in firefighting activities. Transaction volume is about 30,000 annually; and
- Purchase Orders -- Processes payments for open market purchases of supplies and services not in excess of \$10,000. This system was implemented on April 1, 1976, for selected agencies generating about 30,000 transactions annually. The system was implemented for all other USDA agencies on October 1, 1976.

GENERAL OPERATIONS

Real Property Management. This activity includes general leadership and direction in:

- Management of space occupied by USDA operations;
- Building construction, operation and maintenance programs;
- Telecommunications;
- Abatement of pollution at Federal facilities;
- Location of facilities in areas of lower population density;
- Administration of Uniform Relocation Assistance Act; and
- Related activities.

Major accomplishments in real property management include:

Consolidated Housing. The agricultural service centers program was created to reemphasize the Department's long-standing effort to accomplish county office collocations. Collocation permits greatly improved service to farmers, ranchers and other rural residents wishing to transact business with the Department. It also permits more efficient utilization of USDA county resources. The centers house the rural and farm-oriented agencies of USDA and wherever possible, those of state and local government. Over 1,100 locations have been approved as centers and about 500 are operational.

Location of Facilities in Rural Areas. Major relocations are reviewed for compliance with Rural Development Act requirements for selecting rural locations within the Office. Because of the change in the fiscal year, information on office changes in FY 1976 is not yet available. However, during FY 1975 the Department established or relocated 692 facilities involving 4,835 employees. Of these, 533 facilities and 2,740 employees were in rural areas. The Annual Report on Executive Departments and Agencies' efforts to give first priority to locating new offices and other facilities in rural areas is compiled within the Office.

Acquisition of Real Property. During FY 1976 three parcels of land with improvements totaling 2,436.29 acres were acquired without cost to the Department. The appraised fair market value of the properties acquired was \$835,508.

Uniform Relocation Assistance. In FY 1975, under the uniform relocation assistance and real property acquisition regulations, the Department paid 185 claims totaling \$569,826 and acquired 1,149 parcels of land valued at \$43,713,907. We are continuing our work with other Federal agencies to assure uniformity in the implementation of P.L. 91-646.

Telecommunications. The Department's nationwide approximate annual expenditures for voice and record telecommunications are \$23.5 million. During FY 1976, the Department achieved a reduction of \$180,092 in telephones and telephone station equipment costs.

Personal Property Management. This activity provides general direction to USDA agencies in managing the acquisition, storage, distribution, utilization and disposition of personal property. Actions are now underway to:

- Reduce expenditures while maintaining or increasing quality of furniture by encouraging refinishing as an alternative to new procurement and improving utilization through increased inter-agency transfers;
- Develop a comprehensive personal property management information system which, when completed, will eliminate manual reporting requirements and, more important, serve as the basis for improved utilization and management of personal property resources; and
- Further increase utilization of excess personal property. In FY 1976 redistribution within the Department was arranged for excess personal property with an acquisition value of \$3,227,000 (up from \$1,580,000 in FY 1975). Excess personal property having an acquisition value of \$45,875,000 (up from \$45,168,000) was transferred from other Government agencies.

Motor Vehicle Management. In FY 1976, USDA employees drove 444 million miles on official business in approximately 30,000 government-owned and 20,000 inter-agency motor pool and privately-owned or leased vehicles. Agency utilization and cost reports were reviewed with the major fleet-owning agencies and operation and maintenance costs were examined. Actions are now underway to:

- Develop an improved motor vehicle information system;
- Improve utilization of vehicles by inter-agency sharing at locations where 2 or more agencies are collocated; and
- Reduce fuel consumption through replacement with more fuel efficient vehicles.

Conservation of Energy. The Department's efforts in this area will center around implementation of the Energy Policy and Conservation Act. Principal features of the Act affecting the Department are requirements to:

- Only procure vehicles with an average fuel economy of 18 miles or more per gallon for model year 1977;
- Maintain heating and cooling of all facilities at prescribed levels;
- Identify and implement building retrofit projects where there will be a reasonable investment recovery period; and

- Limit total energy consumption for fiscal year 1977 to a level not greater than that consumed in fiscal year 1975.

Developing Use of Non-Government Resources. The office coordinated Departmental participation in 21 Business Opportunity/Federal Procurement and Minority Business Opportunity/Federal Procurement conferences throughout the country. 132 written inquiries from the public were answered.

Administering the Use of Contracts, Grants and Agreements. During Fiscal Year 1976 the office issued 3 amendments to the Agriculture Procurement Regulations; issued Departmental implementation regulations for OMB Circular No. A-95 (Coordination of Federal Assistance with State and local governments); initiated audit of Departmental procurement offices; provided technical assistance in developing the audit guide; continued development of computerized procurement management information system; provided technical expertise to USDA National Finance Center on development of automated purchase order payment system; provided the contracting officer for the Farmers Home Administration Unified Management Information System (UMIS); and revised 10 major procurement and grant forms.

Blanket Purchase Arrangements entered into between this office and 33 GSA Federal Supply Service schedule contractors grossed savings of approximately \$192,000 for the Department in FY 1976.

Management Support Services. Management support is provided to the Office of the Secretary and Staff Offices. District of Columbia Space management involves about 1.9 million square feet of space. Over 300 space alterations, 375 telephone changes and 600 office moves were completed, and 5,000 space related complaints were responded to in FY 1976.

Central Departmental Operations. The Office of Operations also provided the following Departmentwide centralized services, financed under the Working Capital Fund:

- Automated Mailing List Operation, over 1,300 lists, 350,000 names;
- Correspondence referral and records management services for the Office of the Secretary;
- ADP Procurement - Goods and Services;
- Photo composition services for the Department;
- Departmental mail policy and distribution service in the Departmental headquarters buildings;
- Forms storage and distribution service nationwide for all agencies of the Department and supply service for all headquarters agencies; and
- Copier/Duplicating facilities and an In-House Printing Plant to service all agencies of the Department.

ADP SYSTEMS

Modernization of the Department's ADP Resources. During FY 1976 the Department upgraded its facilities at the Fort Collins Computer Center by replacing a Univac 1108 with a Univac 1100/42 to support the growing Forest Service workload. Shortly thereafter, the Department installed a Burroughs 4781 at the St. Louis Computer Center replacing the installed Burroughs 2700. The Department has initiated a competitive ADP procurement for its Kansas City/St. Louis Computer Centers which would replace eight second and early third generation computers with one configuration which would principally support the Agricultural Stabilization and Conservation Service, Federal Crop Insurance Corporation and Farmers Home Administration. The Department

has also undertaken work on a competitive procurement for the New Orleans Computer Center to support the requirements of the National Finance Center and the Department's Central Accounting System.

Computer Center Performance. Overall computer center availability or "uptime" was maintained at 97 percent during FY 1976 while 29 percent more jobs were processed in FY 1976 than FY 1975. The cost per job run in the Departmental Computer Centers decreased 23 percent, from \$19.11 in FY 1975 to \$14.40 in FY 1976.

Telecommunications Network. A telecommunications study is being performed for the Department by an outside communications consulting firm to assist in determining alternative approaches for meeting USDA communication requirements over the next eight years.

Plans and Policy. During FY 1976, USDA published its first Departmental ADP Policy and Procedures Manual, established a Departmental Data Processing Standards program and developed a Departmental ADP Long Range Plan.

Sharing of Data Processing Resources. During FY 1976 a major joint ADS/Agency study on ADP planning for Agricultural Service Centers was completed. The study indicated that sharing of data processing resources at the Agricultural Service Center level was economically justifiable and a plan implementing the results of the Task Force study has been developed.

PERSONNEL ADMINISTRATION

The Office of Personnel provides general liaison, direction, leadership, and coordination of the personnel management program of the Department. This program includes position management, position classification, leave administration, personnel systems design, salary and wage administration, employment and manpower planning, personnel and records security, standards of employee conduct, discipline, employee relations, employee appeals, employee development, program evaluation, health, safety and welfare, incentive awards, labor-management relations, personnel legislation, employee fringe benefits, equal employment programs, and other related personnel activities. The Office promulgates Departmental policies and procedures relating to these functions. The operational phases of this program have been substantially delegated to the Agencies; however, the Office of Personnel provides direct personnel services to the Office of the Secretary and Departmental Staff Offices. Among the significant accomplishments during fiscal year 1976 were:

Equal Employment Opportunity. The FY 1977 EEO Plan for the Department was developed to meet the revised Civil Service Commission guidelines for EEO Plans. In addition, special meetings were held with Agency officials to give them guidance on the implementation of the new Plan guidelines. Each of the Agency EEO Plans was reviewed for legality and compliance with CSC and USDA requirements. Two hundred and two EEO complaints from USDA employees or applicants for employment were filed during fiscal year 1976. This represents a 100% increase over the FY 1975 level.

Personnel Management Evaluation. Advice and guidance were provided to Agency personnel offices on establishing or improving their personnel management evaluation systems. Sixty individual evaluation reports were reviewed and actions to improve noted deficiencies were coordinated with the Agencies and the Civil Service Commission. This represents a 50% increase in the number of reports to be processed.

Labor Management Relations. As required by CSC/OMB guidelines for labor management relations programs, the Department and each Agency with labor organizations developed a labor action plan for the fiscal year. Sixty-two labor agreements were reviewed and approved during the fiscal year.

Employee Appeals. The Office of Personnel processed 153 employee grievances, 13 classification appeals, and 10 performance evaluation appeals. There were 220 appeals to the Civil Service Commission from USDA employees and 41 court cases involving personnel actions.

Position Management. One thousand and fourteen personnel actions were reviewed for compliance with classification, merit promotion, and position management requirements before being effected. In addition, 319 personnel actions involving established positions at GS-14 and 15 were post-audited as a control on the utilization of upper level positions in the Department.

Personnel Management Information. The staff of the Office of Personnel worked with the Civil Service Commission to improve the CSC's Central Personnel Data File and the Federal Personnel Management Information System. Continuing changes have been made in the MODE System to accommodate changes to the CPDF.

Improvements have been made in the on-line terminal access system (MARS). This system allows Agencies to inquire directly into a data base of about 111 items of personnel information. Changes made in the system during the year decreased the costs of updating the data base while providing more timely and accurate information to system users. Several training sessions were held to acquaint new users with the system. Plans are underway to add 25 new terminals to the system.

Intradepartmental Training Programs. During FY 1976, 704 employees participated in three Departmental training programs: Executive Workshop in Agri-Dynamics, designed to provide managers an understanding of the internal and external forces affecting USDA mission accomplishment; Supervisory and Managerial Strategies, designed to give first level supervisors basic management training; and Problem-Solving and Decision Making, designed to aid managers in analyzing and handling problems. Two new courses were developed during the year: Merit System for Managers, designed to train supervisors specifically in their personnel management responsibilities; and the Agricultural Management Planning Seminar, designed to aid mid-level managers in planning their own careers and developing their subordinates. Sixty-eight employees attended the Merit System for Managers course; 16 attended the Agricultural Management Planning Seminar.

Executive Development Program. A comprehensive Executive and Managerial Development System was developed to provide Agencies with step-by-step guidance on developing and implementing executive development systems which meet Civil Service Commission requirements. As part of this system, a special program, the Personnel Interchange Process, was developed. This program provides managers with on-the-job developmental assignments on an interagency basis.

In addition, a special audio-visual orientation program was presented to 63 executives. The program provides new executives with a broad overview of USDA's history, missions and management system.

Incentive Systems. Special emphasis was put on the use of suggestions to decrease costs and reduce paper work through the Presidential Cost Reduction Campaign and the USDA Forms and Reports Reduction Campaign. The Office of Personnel processed 284 honorary award nominations, employee suggestions, and cash awards over \$2500.

USDA Upward Mobility Program. The Upward Mobility Program is designed to provide employees at the GS-1 through GS-10 grade levels in the Washington, D. C., Metropolitan Area with the job education and training opportunities needed to compete for advancement to better jobs. During FY 1976, 340 employees participated in the program.

Employment Programs. In addition to providing direction and technical advice on all employment regulations, the Office of Personnel developed an affirmative action plan to increase employment opportunities for persons with physical handicaps and for veterans. These plans call for special emphasis on publicizing the program and training supervisors and personnel specialists in their obligations under these programs.

Job inquiries continue to be handled at a central point for the Department. The following data shows the workload for the fiscal year:

	<u>FY 1976</u>
Letters answered	6,022
Walk-in interviews	5,700
Telephone inquiries	7,150

During FY 1976, the Office of Personnel conducted a field test of a new Departmentwide merit promotion plan and employee appraisal system. The test involved over 3,000 employees in five Agencies and offices. Based on the test results, changes were made in these systems. Implementation of the new promotion plan and employee appraisal system will begin in FY 1977.

Security and Employee Relations. The Department's Security Program operates to assure that employees and advisory committee members meet appropriate standards of loyalty and suitability, considering the duties they are expected to perform and that classified material is properly safeguarded.

FY 1976 workload included:

<u>Item</u>	<u>1975</u>	<u>1976</u>
Security Clearance Actions	1,319	1,027
Training Act Clearances	334	511
Clearances Consideration for Foreign Travel and International Conferences	1,436	1,756
Security Considerations of FBI Reports	106	93
NAC&I's Processed Transmitting Investigative Reports and/or Adverse Results	791	395
Investigative Reports Evaluated	359	389
Post Audit of Disciplinary Actions	88	89
Advisory Committee Checks	620	455
Reviews of Conflict of Interest Forms	275	269

Health. Five Health Units are maintained in the Washington Metropolitan Area: one in the South Building of USDA; one in the GHI Building, Washington, D. C.; two in Beltsville, Maryland; and one in Hyattsville, Maryland.

During FY 1976 the following services were provided:

- 59,269 visits were made by employees for emergency care for accidents or illness;
- 7,458 hypos were given, including overseas shots;
- 2,702 pints of blood were collected for the American Red Cross;
- 2,692 flu shots were given;
- 6,903 employees were counseled by the nurses on job related problems; and
- Screening programs for cholesterol, breast cancer, and blood pressure reached 3,651 employees.

Safety. Departmental regulations on safety management were revised in FY 1976 to establish standards which will bring the Department's and the Agencies' safety programs into compliance with the Occupational Safety and Health Act of 1970. Initial development work was also completed on the Safety Management Information System. This system will allow more accurate and in-depth analysis of the causes of accidents. These analyses will result in more effective preventive measures and reduced costs.

Personnel Operations. The Office of Personnel provides a full range of direct personnel management services for the Office of Secretary and the Departmental Staff Offices. These services include aiding offices in properly organizing, obtaining necessary security clearances, counseling employees on retirement, assisting managers in dealing with unions and providing guidance on employee development activities.

During FY 1976 1,980 classification actions were processed as well as 425 accessions, 545 promotions, 412 losses, and 1,347 other personnel changes. In addition, 208 formal and informal employee relations cases were handled. 196 incentive awards and 315 security clearances were processed, and 638 conflict-of-interest forms were reviewed.

EQUAL OPPORTUNITY

Responsibilities of the Office of Equal Opportunity (OEO) include development and enforcement of the Department's equal opportunity policies and programs, implementation of the requirements of the Civil Rights Act of 1964, applicable Executive Orders, Department Rules and Regulations and Secretary's memoranda. The onsite review continues to be an effective means of carrying out the tasks of civil rights in USDA programs. Deficiencies in the area of program delivery to potential beneficiaries are brought to the attention of the agencies and recommendations for corrective action are included in the review reports. The Office analyzes problems which constitute barriers to the nondiscriminatory operation of the Department's programs and activities, and develops basic policy and program approaches for more effectively implementing the Department's responsibilities in equal opportunity. Progress in socio-economic programs involving agency procurements, grants, loan and bank deposits are analyzed for their impact on minority business and subsequent actions taken to increase assistance. In addition, the office performs those functions related to responsibilities assigned to the Department of Agriculture by the

Office of Federal Contract Compliance to conduct compliance reviews of all government contractors in the Commercial and Noncommercial farms, Agricultural Services, Food and Kindred Products, and Tobacco Manufacturers industries, and parts of the wholesale and retail trade dealing with food and other agricultural commodities.

Program accomplishments during FY 1976 include the following:

Compliance Review Evaluation Project. To determine the effectiveness of USDA Agency civil rights compliance review procedures, an extensive evaluation process was initiated that focused on six major program agencies (ES, FmHA, FNS, FS, REA, and SCS). Field evaluation included visits to the 46 regional and State level offices, observation of 74 onsite reviews being conducted, and analysis of over 2600 compliance review reports. Based upon the overall evaluation it was concluded that most present review procedures are unproductive due to the routine, superficial manner in which they are done. Also noted were many instances of duplication of responsibility while important areas were left unmonitored. It is proposed that agencies eliminate almost one third of the present 32,000 routine, repetitious reviews. It is further suggested that, by involving fewer well-trained reviewers, more thorough and intensive compliance reviews can be conducted. Meetings are scheduled with each of the six agencies to discuss evaluation reports and recommendations for improving reviews.

Migrant Survey Program. The office conducted field surveys of 11 locations, including 8 crop areas and 3 migrant farmworker home base areas to observe labor camp conditions and interview farmworkers. The overall purpose of the project was to determine the extent of USDA program delivery to migrant farmworkers and to remedy any problems identified which prevent participation in program benefits and service. In February 1976, a 53 page report was issued documenting certain problems in the Food Stamp, FmHA Rural Housing Loan and Extension Service Programs. The report also contained 22 recommendations for improving program delivery to migrant farmworkers. The agencies involved (FNS, FmHA, ES) have already taken positive action on many of the recommendations.

USDA Indian Desk. The Indian Desk staff has continued in its efforts to broaden communication between Indian Tribes and groups and the Department. They have also continued in their efforts to improve the delivery of services to eligible Indians and tribal groups. Four surveys of Indian reservations were conducted to identify those needs of the Indians which could be met through USDA program benefits and services, and to obtain specific commitments for action from program representatives. The Indian Desk staff attended major national Indian conferences. For the Indian delegations visiting Washington, the staff arranged meetings with USDA officials who could respond to their needs and they also represented the Department at intergovernmental meetings. The Indian Desk staff has reviewed laws and regulations affecting Indian affairs and recommended changes when necessary. They have also continued to work with the Special Task Force for American Indian Affairs. The brochure "USDA Programs of Interest to American Indians" was updated and it is now being reprinted.

Program Planning and Evaluation. Twenty eight reports and special studies evaluating minority participation in USDA programs were completed during FY 1976 and the transitional quarter. Major findings included:

- Proportionately more minority eligible borrowers received FmHA operating loans in 1975 than eligible nonminority borrowers;
- Minorities received 3.1 percent of FmHA farm ownership loans in 1975;
- Minority professional employment in the cooperative state extension services has stabilized around 7.2 percent. In 1971

it was only 5.5 percent;

- Minorities constituted only one percent of all elected ASCS county and community committeemen in 1974 with eligible minorities voting at a rate 30 percent below that of nonminorities;
- As of 1974, more than 80 percent of approximately 25,000 4-H units in racially mixed communities were integrated.

Inequities uncovered by these evaluations were brought to the attention of agency program managers for corrective action. A statistical summarization of the reports was published in the OEO Annual Report.

Other major activities included the establishment of a Civil Rights Impact Statement procedure whereby major policy actions are reviewed for civil rights implications prior to implementation. The procedure applies to (1) legislative proposals for which environmental impact statements are required; (2) changes in program regulations published in the Federal Register; (3) decisions affecting program delivery and (4) locations of new field offices involving ten or more employees.

A memorandum of agreement was concluded with the Department of Housing and Urban Development for cooperative work in implementing national fair housing laws and policies. An equal housing opportunity program for USDA employees was established.

Minority Business Assistance. The Department's procurement functions and its delivery of other business services is highly decentralized to the regional, state and local levels. For this reason, the Minority Business Assistance Division (MBAD), was established in November 1974. The responsibility of this division is to coordinate and monitor the minority business programs of the USDA agencies to ensure maximum impact on minority businesses throughout the country. These programs include procurement, grants and loans, concessions and bank deposits. Since this office was established, the 8(a) procurements have increased from \$2.6 million in FY 1974 to \$6.4 million in FY 1976.

Major activities included: (1) training of USDA-Minority Business Opportunity Committee (MBOC) representatives; (2) publication of minority enterprise regulations in the Agricultural Procurement Regulations; (3) visiting MBOC cities to make presentations concerning USDA business enterprise opportunities; (4) providing assistance to those MBOC cities where USDA has no representation; (5) serving on three of the Interagency Council's committees and one subcommittee.

A major initiative was undertaken to involve Agricultural Marketing Service' commodity buying program with the 8(a) program. We anticipate that this initiative will greatly enhance the Department's efforts in this field of work.

Another major initiative is a shift in our approach to locate minority contractors for the Department's construction activities. We have secured the services of a minority firm, funded by the Office of Minority Business Enterprise (OMBE), to locate and apprise contractors of USDA's planned construction activities for FY 1977.

Contract Compliance. The office conducted 537 onsite, desk, and audit reviews in all of the Standard Industrial Classifications (SIC). This figure includes 36 construction and 55 Rural Electrification Administration (REA) onsite reviews.

In addition, there were 5 audit reviews completed at REA facilities. These reviews affected 153,209 employees of whom 37,965 were minority group persons and 46,941 were females. Reviews were made in each of the industries represented in the food and kindred products group. In addition, 52 preaward reviews were made at facilities bidding for Government contracts of \$1 million or more, 162 initial reviews were conducted, 274 follow-up reviews, and 13 complaint reviews were also made during this period. As a direct result of the onsite, desk, and audit review activities, contractors established 12-month goals and timetables in their Affirmative Action Programs which projected minority hires of 2,672, an average of 5.3 new hires at each of the 501 reviewed facilities projecting goals.

The Audit Review Group processed 105 reviews. This group of senior equal opportunity specialists selects a statistical sampling of contractors reviewed in prior years; evaluates EEO progress; and measures compliance with current rules and regulations.

The following are examples of specific compliance reviews conducted by the Office during FY 1976:

- During FY 1976, onsite reviews were conducted at 60 REA Borrower establishments. This represents a 185 percent increase in productivity over FY 1975. In addition, 50 of these were preaward reviews which were each conducted prior to the approval of a new loan in excess of one million dollars;
- After an onsite review, a back pay settlement with Continental Distilling Corporation, Royersford, Pennsylvania was conciliated. As a result, 84 women identified as an "affected class" received back pay. Also, the contractor modified provisions of the collective bargaining agreement by converting the departmental seniority system to non-discriminatory plant seniority;
- A complaint review was conducted at Sealtest Foods, Richmond, Virginia. The review was based on the complaint that a Black male route sales driver was terminated from his job because of his race. The review disclosed evidence which sustained the allegations. The Division conciliated with the contractor and obtained a settlement which offered the complainant reinstatement in the next driver salesman job opening with back pay or larger cash settlement. The complainant elected to accept the larger cash payment settlement and declined the job in order to continue his education; and
- A complaint review was conducted at the Coca-Cola Company, San Francisco, California. The review was based on a complaint that a Black female secretary was denied another job because of her race. Subsequent to the review and conciliation, the company promoted her to a new position which she desired with a \$50 per month pay increase.

STATUS OF PROGRAM
INFORMATION SERVICES

The Office of Communication is the communications link between the Department of Agriculture and farmers, organizations, and institutions interested in agriculture, consumers, and the public at large. The office provides a service to the Department and its constituent agencies--and to ultimate users of agricultural information--by disseminating results of agricultural research and marketing, of trends in agricultural programs and policies, and of other equally pertinent subjects that are essential to carrying on the work of the Department. The Office of Communication coordinates all information work in the Department; reviews for final clearance all information materials released to the public; and coordinates agricultural information activities with those of other Federal and State agencies.

PUBLICATIONS

PUBLICATIONS REVIEWED

	<u>FY 1975</u>	<u>FY 1976</u>	<u>Transition Quarter</u>
New and revised manuscripts reviewed editorially for GPO printing	726 <u>1/</u>	692 <u>2/</u>	180 <u>3/</u>
Slight revisions and reprints reviewed (GPO)	314	311	128
Manuscripts reviewed for dupli- cating or printing at Department Plant	167	109	27
Total Number of Reviews	<u>1,207</u>	<u>1,112</u>	<u>335</u>

PRINTING

Printing through Main GPO or
GPO Regions

New and revised publications to printer	672 <u>1/</u>	686 <u>2/</u>	177 <u>3/</u>
Slight revisions and reprints to printer	314	247	314
Other printing orders written and placed	3,073	4,190	1,082

Printing other than at Main
GPO and Regions 5/

Miscellaneous orders through Department Service Office (DSO)	457	353	75
Miscellaneous orders through USDA Plant	<u>1,771</u>	<u>1,617</u>	<u>459</u>
Total printing orders	<u>6,287</u>	<u>7,093</u>	<u>2,107</u>

1/ Includes 216 major periodicals.

2/ Includes 219 major periodicals.

3/ Includes 48 major periodicals.

4/ Includes 267 major periodicals.

5/ Former OMS orders now handled by COMM.

PUBLICATIONS DISTRIBUTED. Distribution of popular publications increased by 2.8 million in FY 1976 to a total of 9.3 million. An additional 2.8 million publications were printed in the Transition Quarter. There was evidence in both periods of the increased demand for popular publications by Members of Congress. Thus, in the 15-month period from July 1, 1975, through September 30, 1976, 12.1 million popular publications were distributed, nearly double the number distributed in the 12 months of FY 1975.

Nevertheless, a decline of about 4.6 million occurred in FY 1976 in overall distribution (popular, semitechnical, and technical publications). This decrease, in spite of the large increase in popular publications, is in large measure traceable to the Food and Nutrition Service's not reissuing or redistributing five Food Stamp publications which together accounted for about 8 million copies in FY 1975. The decrease also reflects the very earliest of movements away from conventional Departmental printing and distribution by certain agencies in favor of alternative methods of publishing, such as publishing through the facilities of the National Technical Information Service of the Commerce Department. Also, the decrease reflects in part the reduction in volume of semi-technical and technical research publications resulting from the effort, especially in ARS, to improve review procedures for better estimating needs and better targeting publications to their intended audiences.

Thus, total distribution for all types of publications for the 15 months combining FY 1976 and the Transition Quarter amounted to 44.8 million, only about 1.7 million more than were distributed in the 12 months of FY 1975.

	Popular 6/			All Publications		
	Fiscal Year		Transition Quarter	Fiscal Year		Transition Quarter
	1975	1976		1975	1976	
	(number of copies in millions)					
Total stocks at start						
of year	7.1	7.1	7.0	20.9	20.2	19.1
New publications printed	.3	1.1	.2	16.6	16.2	2.1
Reprints printed	6.1	8.1	2.8	28.6	21.5	3.8
Returned by SupDocs						
(Loan)	<u>.1</u>	<u>.1</u>	<u>- -</u>	<u>.1</u>	<u>.1</u>	<u>- -</u>
Total available for						
distribution	13.6	16.4	10.0	66.2	58.0	25.0
Stocks disposed of	-.1	-.1	- -	-.3	-.2	- -
Stocks at end of year .	<u>-7.0</u>	<u>-7.0</u>	<u>-7.2</u>	<u>-22.7</u>	<u>-19.2</u>	<u>-18.8</u>
Total actually dis-						
tributed	6.5	9.3	2.8	43.2	38.6	6.2

6/ Includes Farmer's Bulletins, Home and Garden Bulletins, Leaflets.

YEARBOOK SELLS 10,000 COPIES. In its first three months of publication, the 1976 Yearbook -- "The Face of Rural America" -- sold 10,000 copies, according to Superintendent of Documents estimates. This means that some 243,450 copies were either sold or distributed to Congress. The 1976 volume is a photo book of American agriculture in the Bicentennial year. It is USDA's major Bicentennial project.

PUBLICATIONS DISTRIBUTED THROUGH CONSUMER INFORMATION CENTER. Although not reflected in the distribution figures of the Publications Division, it must be noted that in FY 1976 and the Transition Quarter more than 22 million copies of Yearbook Separates were provided for distribution through the Consumer Information Center, along with large quantities of various other consumer publications, such as many of those listed and described in the Special Reports portion of this Status of Program Report.

PRESS DIVISION. Foreign grain sales, national and international food supplies and prices continue to be of major interest to the public and press. The Press Division issues about 4,000 news releases, reports and speeches yearly and receives an average of 150 calls a day from the news media and the public, checking on news developments or seeking more information on news items. Summarizing the Department's news highlights and reports and getting the news out while it is still news are the Press Division's "mailgram" service to state agricultural or extension editors, and "news highlights", a tape-recorded service to callers. Going out twice each week, mailgrams are sent by overnight wire to the cities where they are to be issued, and then put in the mail for delivery the next morning to the state extension editors. The state extension editors, in turn, relay the news to newspapers, use it in radio broadcasts and duplicate the information for distribution to key people in their universities. The Department's most important news items are taped each day so that the press may call the Department (202-447-2545) and hear the latest "News Highlights."

Minority media -- mainly Spanish and Black, are serviced with news features on Department projects and services. The number of outlets totals 239. The monthly newsletter, "Agricultural Briefs", continues to be issued to Black-oriented newspapers and magazines and photographs are mailed periodically to Black-oriented publications.

Farm Paper service -- the growing importance of food keeps interest high in the Farm Paper Letter. Now in its 34th year, the publication goes to more than 700 domestic outlets; it is also sent to agricultural attaches in 40 embassies throughout the world. Same-day service continues for reporters or editors writing or phoning for assistance. Service also includes sending advance articles of the monthly Agricultural Research magazine, plus "backgrounders" to all outlets.

Food and Home Notes -- this weekly newsletter is directed to a special press list of 467 media outlets, and 3,125 educators, nutritionists and home economists in all 50 states. Telephone and written requests are filled daily to media people concerning all phases of food and family life relating to U.S. agriculture. The economics of food and the safe use of foods continue to be our most important areas of inquiries.

RADIO AND TELEVISION. Without initiating new categories of service, it has been possible during FY 1976 to upgrade the quality of service to broadcasting stations by producing 30 percent more news film clips, many in remote locations such as experiment stations in several regions of the country to help keep the American public abreast of scientific breakthroughs and progress in improved nutrition, school feeding, environmental quality, etc. Many of these shorter productions, 30- and 60-second "public service spots" have been broadcast on commercial national television networks as well as on local stations, and on radio stations and networks.

The Department's weekly half hour television program "Across the Fence" and the daily four-minute program "Down to Earth" produced in cooperation with Station WRC-TV, Washington, have gained slightly in coverage during the year, and continue to be an important outlet of useful information for consumers and agriculturists.

Services to radio stations continue at approximately the same level as last year, with a marked improvement in quality following installation of new electronic equipment to replace old, worn out facilities. With the increasing tempo of public and media interest in the economics of food and fiber production, distribution, exports, etc., the increase in requests for information, interviews and materials from stations and networks which began two years ago is sustained, actually increasing gradually as more stations respond to the public demand for such information.

SPECIAL REPORTS DIVISION. The Office of Communication made a special effort to provide the public with information about modern farming, its impact on the economy in general, and the vital necessity of a vigorous foreign trade in agricultural products. In addition to providing up-to-date information about these and other topics, the year's program included stepped-up efforts to reach new segments of the general public with information about the contribution of agriculture. Particular efforts were made to reach school-age audiences.

The Farmer's Contribution to a Stronger National Economy. This information program made special use of opportunities to reach new publics with information about agriculture and its impact on the national economy. The Secret of Affluence was the keystone document in a major bicentennial event in Florida and People on the Farm: Dairying found a responsive audience among high school students.

The Secret of Affluence. This pocket sized booklet explains to consumers how the growth of American wealth is directly tied to the efficiency of American farmers. The booklet was the basis for the Cape Canaveral 3rd Century America Bicentennial agricultural exhibit and the USDA exhibit at the Museum of Science and Industry in Chicago. More than 100,000 copies of the booklet were distributed at the Florida exhibit during the summer of 1976. Since the booklet was first made available to the public, 4,000 copies a day have been distributed.

People on the Farm: Dairying. This is the first of a series of publications on the economics of modern farming. A copy of the booklet was distributed to the social studies department of every junior and senior high school in the nation. The 26-page, black and white booklet was developed after Office of Communication inquiries revealed students were receiving little information on modern agriculture and what they did receive was often out-of-date. Other booklets in the series will cover modern broiler growing, corn-hog production, range beef, cattle, cotton, vegetables, wheat and citrus.

More than 50,000 copies of the dairy booklet have been requested since the initial distribution to schools. The series has been unusually well received in urban centers such as Brooklyn, the Bronx, St. Louis, Chicago, Los Angeles, Boston, Pittsburgh, Akron and Cleveland.

In addition to the distribution of the publication itself, wide use was made of the pictures from the booklet, beginning with a picture story and package. In turn, UPI developed and distributed a picture package on its own and sent it to about 78 national clients. This distribution includes such papers as the Boston Globe, the Minneapolis Star, Newsweek Magazine and many others. Numerous trade publications have also requested photographs from the picture story.

U.S. International Agricultural Trade: Its Growing Importance to the National Economy. Distribution of this package of five leaflets continued in response to continued public interest. Each booklet emphasized a different major aspect of U.S. farm exports. The set was designed primarily for use by business and editorial writers, farm and business leaders and civic and community service associations. More than 75,000 sets have been distributed to date. Individual booklets within the series have been widely used as the basis for speeches and newspaper features and editorials relating to farming and farm exports.

World Trade Week. Cooperating with the Department of Commerce in commemorating World Trade Week, the Office prepared a press kit featuring eight fact sheets in booklet form. Each fact sheet emphasized a specific aspect of the importance of U.S. farm exports. Distribution was made to media writers and speakers.

From the Earth to Your Table. An educational project on food production and farm costs, this teacher's package of activity sheets was aimed at 11th and 12th grade students. The book of spirit masters and classroom aids was mailed to the social studies department of every high school in the nation. An additional 10,000 sets were mailed out on request during the 1975-76 school year, with a second printing now going into distribution. Principal users of the student activity books were social studies chairmen and teachers, but a significant group of home economics teachers and consumer educators also requested copies. The Greater Philadelphia consumer education department distributed the project as a model of curriculum planning and as a pioneering venture in educational materials on the subject of food production, marketing and costs. A companion to the high school project is being developed for elementary school children.

Food Prices Here and Abroad. This popular leaflet, revised and reprinted in 1976, compares food expenditures in the U.S. and other countries, providing writers with handy background comparisons on the percent of income spent on food, length of time workers must spend in earning identical foods in the U.S. and in other countries. Distributed primarily to the media, 8,000 copies have also been mailed to individuals on request. The booklet is used extensively by financial and farm writers, economists and farm-oriented speakers.

The Real Facts About Food. This booklet which is updated periodically, includes basic facts about decisions that affect the production and marketing of our food supply, tells how food costs have increased compared with other consumer costs, and compares U.S. food costs with costs in other countries. Widely used by the communication media, consumer groups, and others in telling the food story, the booklet was especially effective in 1973 and 1974 when 14½ percent annual increases in food prices raised the consumer interest in food prices. More than a half million copies of the booklet have been distributed to the public, largely through the Consumer Information Center.

Fact Book of Agriculture. A deskbook revised and updated periodically, the Fact Book provides data on modern American agriculture. Largely used as a source book by agricultural writers and others working with the press, the book is also sent to teachers, students and researchers. 10,000 copies of the book were distributed to the media and others.

The Farmer's Contribution to Better Nutrition. The information effort in 1976 concentrated on taking the Department's basic nutrition message to new audiences.

Good Food News for Kids. The Office of Communication in fiscal year 1976 tried direct distribution of some of the Federal Government's most popular consumer leaflets. The set of four leaflets on food and food costs is currently the No. 3 publication requested by the public at the Consumer Information Center. The four leaflets on food, designed for elementary school age children, tell them where food comes from, who produces it, what it costs to produce and how food helps children grow and be healthy. Some 162,000 copies of the booklets were distributed in fiscal year 1976 alone; more than a half million copies distributed since the series was initiated. This year, the Office of Communication contracted with a private firm to distribute the booklets directly to consumers in some 638 different supermarkets, mostly on the eastern seaboard. An unusually strong demand from shoppers resulted in the distribution of more than 400,000 individual leaflets to consumers over and above the distribution through the Consumer Information Center. This distribution was achieved at a cost far below the ordinary cost of postage.

Home Canning and Food Safety. In a follow-up to the Department's 1975 media campaign in support of safe methods of home canning, the Office of Communication sent 11,000 copies of "Food Safety 1976" to food editors and consumer editors. This year's kit contained information on safe home canning, freezing and drying foods. In further support of the home canning program, two television spots were distributed to the three networks and nearly 600 television stations across the nation.

The Thing the Professor Forgot. This children's storybook, developed by the Department of Agriculture in cooperation with the General Mills Corporation, turned out to be the No. 1 publication distributed by the Consumer Information Center in fiscal year 1976. More than 1 million copies of the booklet were distributed to children, their parents, and school teachers in the first 10 months of distribution. The project also resulted in a nutrition message being printed on 14 million cereal boxes, with an offer of the booklet on an additional 25 million boxes. The Journal of Nutrition Education described the project as "a good example of a joint project developed by government and private industry" and Good Housekeeping magazine called it "a terrific way to teach young children how to develop good eating habits."

Food Is More Than Just Something to Eat. This booklet continued to be widely distributed in 1976 and, in fact, was the fourth most popular publication mailed out of the Consumer Information Center. More than 2 million copies of this basic nutrition message have been distributed to the general public since it was first published by the Department of Agriculture in cooperation with the Department of Health, Education and Welfare, the Grocery Manufacturers of America, and the National Academy of Sciences.

Food for Thrifty Families. To assist families who want to economize on food costs and those receiving Food Stamps, the Office of Communication issued the 22-page "Food for Thrifty Families." The booklet, based on USDA's Thrifty Food Plan, and produced by the Agricultural Research Service, contains menus for a family of four for 1 month, recipes, food buying and storage tips and nutrition information. The initial printing of 10,000 in April 1976 was depleted by August and a 50,000 reprint was made in September 1976. Quantity copies have been requested from welfare and other government offices, hospitals, community action groups, and Extension Service offices. For example, the New York State Office of Welfare requested 100,000 copies; the State of Arkansas requested an unspecified number ("any given amount..."); the Missouri Office of Human Resources requested 50,000 copies.

The Farmer's Contribution to Better Living. There continued to be a great public need for more information about agriculture during 1976. Special events such as the bicentennial exhibit at Cape Canaveral and the National Bonsai Collection helped to focus attention on agriculture's contribution to better living for the general public.

Informing Consumers About Available Services. Consumer Services and How You Benefit is a 20-page booklet written to provide consumers with information about USDA services available to them and the ways they benefit from other USDA work. A total of 180,000 copies have been distributed at special events and in response to requests. Written and coordinated by Special Reports, the booklet was a cooperative effort of the Office of Communication and Departmental agencies.

Service: USDA's Report to Consumers. The monthly newsletter Service is mailed by request to about 6,000 readers. The audience includes: consumer writers and editors; officers in women's clubs and civic, consumer, youth and labor organizations; trade associations; educators; libraries; industry groups and home economists. In the last year, Service articles were reprinted or used as sources of articles in such publications as Woman's Day; Family Circle; U.S. News and World Report; Time; Kiplinger Newsletter; Of Consuming Interest; Farm Journal; Milwaukee Journal; Washington Star and Chicago Daily News. In addition, Service articles generate 20 to 25 letters or inquiries a week from teachers, associations, news media and others.

Requests for Consumer Information. In addition to inquiries prompted by Service items, the Office of Communication consumer staff handled an average of 100 to 150 calls and letters a week from the news media, teachers, associations, consumer groups and others. The messages ranged from requests for copies of publications to media queries for extensive background information on consumer topics and activities. Included were article assistance to such news media as UPI, New York Times, the Washington Post, U.S. News & World Report, and the Readers' Digest. Other than the news media, requests for information were received from organizations such as the American Bankers Association, the National Dairy Council, the Public Citizens Visitors Center, the United Fresh Fruit and Vegetable Association, H.J. Heinz Company and Dow Chemical Co.

Reaching More Urban People Through National Media. Writers and editors received direct assistance from the Magazine Liaison Service in the preparation of articles for 30 national publications with predominantly urban audiences. The service included suggesting ideas for articles, writing articles, arranging for photographs, and providing back-up facts and story sources. In an effort to help broaden and deepen national agricultural coverage by the mass media, contacts for article sources were established outside the Washington headquarters area. The Office re-established the Magazine Liaison Service in May 1975 to better inform urban people about the origin and management of their food, fiber, and natural resources.

Working with Consumer Groups. Working with consumer groups and other organizations continues to be a large part of the consumer information program of the Office of Communication. Such work ranges from furnishing information on USDA consumer programs and activities to distribution of publications for exhibits. Among the consumer groups with which the staff worked were the American Council on Consumer Interests, the Consumer Federation of America, the National Consumers League, the National Consumer Information Center, the Society of Consumer Affairs Professionals, and the Conference of Consumer Organizations. Interest and activity in the field of consumer education have increased considerably during the last few years. The Office of Communication has provided materials, speakers, and other assistance for such meetings as the National Consumer Education Symposium sponsored by the Office of Consumer Affairs, HEW; All-Eastern Consumer Education Conference, Cherry Hill, N.J.; the Conference on Exceptional Children, New York; the Consumer Education Awareness Conference, Philadelphia.

The National Bonsai Collection. The Bicentennial gift of the National Bonsai Collection, given to the United States by the Japanese people, provided a rare opportunity to introduce the National Arboretum, agricultural research and agriculture generally to large numbers of urban citizens. The information program, carried out in cooperation with the Agricultural Research Service and the Arboretum staff, focused on the 53 priceless bonsai plants. Articles and pictures appeared in gardening pages, travel and consumer sections, general newspaper columns and a variety of other consumer publications. Some 200 copies of a press kit were distributed to the media. The bonsai story proved useful in interesting editors in other USDA stories and in establishing continuing liaison with the Department. Magazines with millions of readers followed up on the contacts established. A few of the publications were Parade, Good Housekeeping, McCall's, Ladies Home Journal, Woman's Day, House and Garden and Cosmopolitan. The extensive and continuing pick up by the press of the bonsai story included favorable editorials in the Washington Post and the Washington Star.

The Farmer's Contribution to a More Satisfying Environment. Safe use of pesticides was the principal message of the Office of Communication's environmental program.

The Pesticide Program. The Division supervises nationwide programs to inform pesticide users of safety measures in purchasing, applying and storing pesticides. This is done primarily through the production and distribution of public service television spots which are used by the networks and independent stations throughout the year.

The Farmer's Contribution to World Food Supplies. The Office's expanded international information program concentrated on the ability of American farmers to meet domestic and international food commitments.

High School Debate Handbook. An important new project for the year involved the development of a handbook keyed to the 1975-76 national high school debate theme, "Resolved: The Development and Allocation of Scarce World Resources Should Be Controlled by an International Organization." Spelling out the Government's position on world food reserves and world food production, the booklet was made available to debaters and social studies students in 18,000 high schools. In addition, 21 other pieces of supporting materials were sent out on request. Over 97,000 copies of the Handbook were distributed along with 145,000 copies of the supporting materials.

Is the World Facing Starvation? In 28 true-false questions, this easy-to-read publication treats some of the most common misconceptions about world hunger and U.S. farm exports. A total of 132,000 copies have been distributed, including copies to the media, farm and consumer groups, and business and civic associations and in support of World Trade Week. The overwhelming majority of the copies, however, were sent out in response to individual requests. The booklet stimulated much press comment including a lengthy bylined article filed by AP wire service. The booklet was described by one radio-television executive as having stimulated a great deal of interest in rural and urban audiences alike. It was also hailed by officials of one international company as one of the finest PR pieces on behalf of agriculture ever published.

International Radio Program. For the fourth consecutive year, the international information officer appeared on 57 Voice of America Breakfast Shows to answer questions submitted by listeners in foreign countries. The show, heard in 128 countries, drew agricultural inquiries from 31 different nations.

Servicing Foreign Readers. Briefings on U.S. agricultural and trade policies, and tour schedules, were arranged for media representatives from Venezuela, England, Uruguay, Canada, France, Finland, Japan, Australia, West Germany, Russia, Spain, Norway, Iceland, Philippines, Israel, and Syria. In addition, material was provided for 87 feature articles to the U.S. Information Agency, Voice of America, and to correspondents representing the foreign press.

Servicing Domestic Readers. The Office's Special Reports Division provided, on request, individual briefings about U.S. farm exports and the world food situation to representatives of Associated Press, United Press, Baltimore Sun, Scripps Howard chain, Minneapolis Tribune, CBS, Wall Street Journal, Newsweek, U.S. News and World Report, Iowa Education network, Farm Journal, Business Week, and Time magazine.

PHOTOGRAPHY DIVISION. During the year, eight slide sets were produced or revised. Most of them dealt with nutrition, home economics, and conservation and were aimed at urban audiences. A total of 7,603 slide sets and filmstrips were sold in FY 1976.

Ten picture stories for release to news media were produced, including stories on general farming, animal health, conservation, crop production, and home economics. Pick-up by mass media outlets was encouraging. For example, United Press International sent a package made up from one of our picture stories on dairy farming to a list of clients which included 30 of the largest newspapers in the Nation.

The Division was heavily involved in the Department's Bicentennial Photo Project. The 1976 Yearbook of Agriculture, "The Face of Rural America," and an exhibit of the same name, consisted entirely of pictures from this project. Plans are underway for the production of slide presentations and picture stories using other photos taken in connection with the Photo Project. In addition many photographs from this project will be added to the Department's photo file which is available to serve the public.

The office handled 8,333 requests for slide sets and still photographs from news media and the public.

MOTION PICTURE DIVISION. The trend toward production of more simple and less costly films for television continued this year, with particular emphasis on the under-five-minute featurette. The numerical increase of releases over FY-75, reflects the extended period covered in this year's transition to the new fiscal year structure.

<u>Running Time</u>	<u>FY-74</u>	<u>FY-75</u>	<u>FY-76</u>
30-60 minutes	0	1	0
13-30 minutes	2	3	8
7-15 minutes	2	3	4
2-7 minutes	14	10	26
Under 2 minutes	34	39	46

DESIGN DIVISION. The Division performs a variety of services ranging from miscellaneous graphics production and exhibit fabrication to assisting the agricultural agencies develop communication plans.

The major program areas served were Animal and Plant Health Inspection, Food and Nutrition Service, Forest Service and Agricultural Research Service.

The major projects completed were:

- USDA Pavilion, U.S. Bicentennial Exposition on Science and Technology, Kennedy Space Center, Florida. Agency participation--26 agencies department-wide, major participation by 8. Size--8,000 square feet. Visitors to USDA pavilion, 400,000.
- Brasstown Bald Visitors Center, Brasstown Bald, Georgia. Agency participation--Forest Service. Size--8,200 square feet. Visitors--100,000 annually.
- American Forestry, Smithsonian Museum of History and Technology, Washington, D.C. Agency participation--Forest Service. Size--600 square feet. Visitors, 40,000 annually.
- Design of The Yearbook of Agriculture, 1976. Size--288 pages. Approximately 300,000 copies.
- The Face of Rural America exhibit, USDA, Washington, D.C., and other sites for the coming year. Agency participation--Office of Communication. Size--5,000 square feet. Visitors, 6,500 for the Bicentennial summer opening.

The Division is increasing the use of exhibits and reducing square feet costs through planning and modular design. All major exhibits completed in Fiscal Year 1976 will be reused totally or in part during the next five years, thereby substantially reducing unit cost.

The Division has had continued success with lightweight table top exhibits made of new materials. This technique, called "printed exhibits," gives visual information support to field personnel at very little cost. In Fiscal Year 1976 the division produced 476 units for two agencies of the Department.

The Division has begun an audience analysis study to develop techniques which can be incorporated into a communication plan. The project is aimed toward targeting audiences so that publication can be more effective and less expensive.

WORKING CAPITAL FUND
(On obligation basis)

Obligations, 1977	\$49,336,000
Estimate, 1978	55,061,000

SUMMARY OF INCREASES AND DECREASES

	<u>1977</u>	<u>Increase or Decrease</u>	<u>1978 Estimate</u>
Supply and other central services ...	\$8,255,000	+\$651,000	\$8,906,000
Photocopy and microfilming services..	34,000	-0-	34,000
Motion picture, photographic, and other visual information services .	2,153,000	+128,000	2,281,000
National Finance Center	15,892,000	+1,447,000	17,339,000
ADP systems	<u>23,002,000</u>	<u>+3,499,000</u>	<u>26,501,000</u>
Total available	<u>49,336,000</u>	<u>+5,725,000</u>	<u>55,061,000</u>

PROJECT STATEMENT

	<u>1976</u>	<u>1977 (Estimated)</u>	<u>Increases or Decreases</u>	<u>1978 (Estimated)</u>
1. Supply and other :	:	:	:	:
central services:	\$7,551,756:	\$8,255,000:	+\$651,000(1):	\$8,906,000
2. Photocopy and :	:	:	:	:
microfilming services:	21,334:	34,000:	-0-:	34,000
3. Motion picture, photo- :	:	:	:	:
graphic and other :	:	:	:	:
visual information :	:	:	:	:
services	2,826,599:	2,153,000:	+128,000(2):	2,281,000
4. National Finance Center:	8,942,142:	15,892,000:	+1,447,000(3):	17,339,000
5. ADP systems	<u>18,984,299:</u>	<u>23,002,000:</u>	<u>+3,499,000(4):</u>	<u>26,501,000</u>
Total, obligations	<u>38,326,130:</u>	<u>49,336,000:</u>	<u>+5,725,000</u>	<u>55,061,000</u>

EXPLANATION OF PROGRAM

The USDA Working Capital Fund was authorized in 1944 by 7 U.S.C. 2235 and is used to finance services provided to USDA agencies on a centralized basis. Under the law, only activities approved by the Director of OMB may be carried out under the fund. Centralization is recommended by the Department and approved by OMB when:

- Centralization will result in cost savings due to
 - . Economies of scale.
 - . Reduced overhead.
 - . Central cost based management.
 - . Coordination which avoids duplication of effort among agencies.
- Centralization offers other advantages such as
 - . Improved services to agencies and to the public.
 - . Availability of services to agencies who could not afford them except on a centralized basis.
 - . Ability to replace equipment on a long-term basis by including depreciation costs in rates charged to users.

The Fund received an initial appropriation of \$400,000 in 1944. Except for the working capital originally appropriated, it is financed by charging using agencies the actual costs of performing centralized services for them. The following services are performed for the agencies and financed through the Working Capital Fund:

Supply and other central services. This activity includes the following services: In the Office of Operations, (a) central supply provides for the purchase, storage, handling, issuance, packing and shipment of stationery, supplies, equipment, blank forms and miscellaneous materials; (b) mail distribution system includes operation of the USDA Post Office, and provides mail and messenger services for some agencies; (c) automated mailing list is a computerized system for maintaining address files and producing mailing labels; (d) correspondence referral system refers all mail addressed to the Secretary, the Immediate Office of the Secretary and the Department to the appropriate point within the Department for preparation of a reply, and operates a control system to assure timely handling of letters; (e) the ADP procurement unit provides Department-wide services for the procurement of computer hardware, software and related services; (f) printing plant furnishes duplicating services, including printing, reproduction, binding, addressing and mailing, and related services; (g) short order and copier stations for duplicating and copy production are located throughout the Downtown USDA complex; and (h) the composing unit produces copy for offset reproduction. In the Office of the Secretary (Office of Intergovernmental Affairs), general and common services to agencies engaged in civil defense are performed on a centralized basis. The Office of Personnel regularly conducts sessions of the Executive Workshop in Agri-Dynamics, Supervisory and Managerial Strategies, Problem Solving and Decision Making and Merit System for Managers. These programs are designed to give middle managers and executives a prospective of their agencies' relationship to other agencies in the Department of Agriculture, as well as to build managerial and executive skills. The College Study Program component of the USDA Upward Mobility Program is designed to provide an opportunity to follow a course of study at an undergraduate level which will help meet the educational requirements of professional occupational disciplines found within the Department. Also, in this Office is the Management Analysis Reporting System of computerized personnel data.

Photocopy and microfilming services. The National Agricultural Library supplies photocopy and microfilm reproductions of library materials.

Motion picture, photographic, and other visual information services. The Office of Communication plans, designs, and produces visual information materials, exhibits, art and graphics materials, and still photographic work for the Department and other Government agencies.

National Finance Center. This activity in the Office of Management and Finance carries out the Department's fiscal and accounting policies, procedures and regulations; processes the Department's centralized payroll, personnel transactions, and administrative voucher payments; provides accounting control over funds of all Department agencies; serves as central contact point with commercial vendors on matters relating to payments and payments procedures; serves as central point for the Department in all external financial reporting to Treasury and other agencies; and provides management reports for all agencies of the Department.

ADP Systems. The Office of Automated Data Systems manages the total ADP resources of the Department including the operation of its major data processing facilities.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$651,000 for Supply and Other Central Services consisting of:
- (a) An increase of \$98,000 for materials and services provided by the Office of Operations, primarily Central Supply stores and forms, composing services, printing services and increased use of copy machines.
 - (b) An increase of \$87,000 in cost for supplies used in production (primarily paper) for the Printing Plant and Copier Service.
 - (c) An increase of \$170,000 in prices for supplies and AD and SF forms handled by Central Supply.

Stores increase	\$95,000
AD and SF Forms increase	75,000
	<u>170,000</u>
 - (d) An increase of \$35,000 in GSA space rental costs.
 - (e) An increase of \$20,000 in overall price levels for most operating expenses (e.g., general supplies, maintenance, and equipment rentals).
 - (f) An increase of \$211,000 for projected pay cost increases.
 - (g) An increase of \$1,000 for increased printing costs for defense mobilization handbook.
 - (h) An increase of \$29,000 for two new training programs to be conducted by Office of Personnel - (1) Merit System for Managers (MSM) and (2) Agricultural Management Planning Seminar (AMPS). After offering several pilot sessions in FY 1976, Agency projections for FY 1977 indicate there will be six sessions of MSM and four sessions of AMPS.
- (2) A net increase of \$128,000 for Motion Picture, Photographic and Other Visual Information Services consisting of:
- (a) An increase of \$55,000 for projected pay cost increases.
 - (b) An increase of \$13,000 in GSA space rental costs.
 - (c) An increase of \$37,000 in outside contracts primarily due to the closing of Motion Picture Lab in FY 1976.
 - (d) An increase of \$8,000 in the cost of materials.
 - (e) An increase of \$15,000 in depreciation, FTS, penalty mail, and supplies.

(3) A net increase of \$1,447,000 for the National Finance Center consisting of:

(a) Employee Compensation

An increase of \$947,000 for projected pay cost increases (\$780,000) and additional staff required to process increased payment volumes and implement additional payment and centralized accounting subsystems (\$167,000). NFC workload in FY 1978 will increase significantly due to additional systems and growth in current systems. The volume of documents processed will increase 33% from 7,018,000 to 9,313,000. The total cost per document will decrease from \$2.81 to \$2.48.

(b) Equipment Rental

An increase of \$122,000 for rental of additional automated data entry equipment required to process expected larger transaction volumes in payments systems and the Centralized Accounting System. The projected increase in document volume directly impacts data input equipment requirements.

(c) Contract Services

An increase of \$100,000 to utilize systems consultants for developing payroll system conversion plan from current computer system to an up-dated configuration and continued implementation of Centralized Accounting System. The system is now run on second generation equipment, which is technologically obsolete. Manufacturers' support for this system will end in December 1979.

(d) All Other

An increase of \$278,000 in operating costs due to increased workloads and a projected impact of inflation as follows:

1. Postage	\$47,000
2. Non-GSA Rent	46,000
3. FTS	20,000
4. Commercial Communication.....	9,000
5. Supply & Material	65,000
6. Printing & Reproduction	53,000
7. Non-capitalized Equipment (and depreciation)	25,000
8. NASA support	7,000
9. Travel	6,000

278,000

(4) A net increase of \$3,499,000 for the Office of Automated Data Systems consisting of:

- (a) An increase of \$1,555,000 for rental of new ADP equipment for the entire year to be competitively acquired and installed at the Kansas City Computer Center while releasing existing computer systems. The new system will meet ADP requirements of ASCS, FCIC, and FmHA which cannot be supported by equipment currently available in the Kansas City and St. Louis Computer Centers. The second generation computer systems being replaced are obsolete and manufacturer support for this and related software will end December 1979.
- (b) An increase of \$1,698,000 for rental of new ADP equipment for the entire year to be competitively acquired and installed at the New Orleans Computer Center while releasing existing computer systems. The new system will support centralization of the Department's financial systems at the National Finance Center and implementation of several major administration applications. Second generation computers now in operation are technologically obsolete and manufacturer support will end December 1979. Of particular concern is the payroll system which is virtually dependent upon these systems.

- (c) An increase of \$488,000 for increased operating costs consisting of a cost-of-living pay increase and additional supplies and materials for the increased processing work-load. This increase includes \$321,000 for projected pay cost increases and \$167,000 for additional consumable supplies in support of additional processing workloads.
- (d) A decrease of \$242,000 by collocating the Kansas City and St. Louis Computer Centers in Kansas City, Missouri. Current plans are for completion of the merger in the latter part of FY 1978.

Tables on the following pages show the distribution of Working Capital Fund activities by agency for FY 1977 and FY 1978.

Working Capital Fund Activities

Fiscal Year 1977

Agency	OO	OADS	COMM	NFC	OP	NAL	OSEC	Total
AMS	\$ 665,547	\$ 365,913	\$ 66,278	\$ 738,163	\$ 14,930	\$ ---	\$ 1,996	\$ 1,852,827
APHIS	861,803	827,521	220,806	2,657,427	43,519	---	11,004	4,622,080
ARS	478,824	1,958,926	270,599	1,773,719	28,855	---	3,661	4,514,584
ASCS	470,436	4,203,393	80,651	443,331	26,196	---	6,130	5,230,137
CCC	---	85,306	---	---	---	---	---	85,306
COMM	166,168	4,529	320,581	16,347	109	---	85	507,819
CSRS	77,186	16,270	14,435	7,878	57	---	42	115,868
EMSC	66,954	18,553	1,528	196,161	11,949	---	64	295,209
ERS	571,139	431,672	135,397	98,474	670	---	466	1,237,818
ES	186,114	242,132	19,679	35,451	2,383	---	5,114	490,873
FAS	417,112	170,566	54,269	78,779	2,394	---	325	723,445
FCIC	51,298	213,808	425	221,370	1,823	---	247	488,971
FCS	45,677	36,770	33,341	7,878	51	---	42	123,759
FmlIA	221,763	1,756,175	43,527	1,508,626	12,170	---	8,013	3,550,274
FNS	502,343	1,745,939	193,826	428,166	16,292	---	1,164	2,887,730
FS	668,734	3,834,841	218,276	7,717,824	97,960	---	13,797	12,551,432
JO	286	89	---	---	---	---	---	375
NAL	66,806	163,911	4,325	18,119	116	---	78	253,355
NFC	---	4,000,000	---	---	546	---	310	4,000,856
OA	60,161	155,532	6,982	42,541	291	---	219	265,726
OADS	163,584	4,353	4,833	35,254	232	---	176	208,432
OALJ	4,530	112	---	788	7	---	7	5,444
OEO	28,421	5,442	6,489	8,469	58	---	42	48,921
OGC	68,197	4,421	426	30,921	196	---	148	104,309
OI	45,472	38,067	6,868	28,754	196	---	155	119,512
OMF	99,292	295,226	4,837	173,709	72	---	56	573,192
OO	212,838	106,206	3,854	25,801	182	---	141	349,022
OP	72,482	62,055	13,492	8,863	10,123	---	49	167,064
OCGM	73,994	1,407	---	1,576	---	---	49	77,026
PRSA	57,191	33,984	485	16,347	116	---	92	108,215
RDS	30,142	514	5,101	2,560	14	---	14	38,345
REA	356,644	54,667	30,907	104,974	1,052	---	339	548,583
SCS	576,848	415,947	28,671	3,108,833	21,658	---	10,948	4,162,905
SEC	186,858	1,049	50,748	8,075	51	---	42	246,823
SRS	431,285	368,938	19,886	149,681	1,893	---	5,523	977,206
Subtotal	7,986,129	\$21,624,234	\$1,861,522	\$19,694,859	\$296,161	---	\$70,538	\$ 51,533,443
GS	16,564	---	---	---	---	---	---	16,564
Other	18,824	1,567,766	305,724	---	---	---	---	1,926,524
Subtotal	\$8,021,517	\$23,192,000	\$2,167,256	\$19,694,859	\$296,161	\$34,200	\$70,538	\$ 53,476,531
Intra-fund billing	---	---	---	---	---	---	---	---
NOHR	-132,800	-189,894	-14,576	-4,000,000	---	---	---	-4,337,270
FAME	---	---	---	+168,000	---	---	---	+168,000
TOTAL, WCF	\$7,888,717	\$23,002,106	\$2,152,680	\$15,891,979	\$296,161	\$34,200	\$70,538	\$49,336,381

Working Capital Fund Activities
Fiscal Year 1978

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Agency	OO	OADS	COMM	NFC	OP	OSEC	NAL	Total
AMS	\$ 716,923	\$ 392,871	\$ 70,636	\$ 866,899	\$ 16,661	\$ 2,104	---	\$ 2,066,094
APHIS	937,872	883,493	233,516	3,120,882	49,871	11,596	---	5,237,230
ARS	522,059	2,123,228	286,539	2,083,055	31,677	3,858	---	5,050,416
ASCS	505,659	4,561,574	86,052	520,648	29,317	6,460	---	5,709,710
CCC	---	85,306	---	---	---	---	---	85,306
COMM	178,313	4,280	339,211	19,198	109	89	---	541,200
CSRS	82,502	15,772	15,104	9,252	57	45	---	122,732
ENSC	71,687	20,256	1,605	230,371	13,459	67	---	337,445
ERS	606,785	468,952	142,418	115,648	670	490	---	1,334,963
ES	198,618	262,174	21,213	41,633	2,818	5,389	---	531,845
FAS	445,071	184,896	57,382	92,519	2,685	342	---	782,895
FCIC	55,297	231,046	458	259,977	1,893	260	---	548,931
FCS	48,711	39,927	34,882	9,252	51	45	---	132,868
FedHA	239,883	1,897,030	45,938	1,771,730	13,160	8,444	---	3,976,185
FNS	541,694	1,844,300	203,914	502,838	18,357	1,226	---	3,112,329
FS	738,796	4,138,647	230,422	9,063,811	104,918	14,540	---	14,291,134
JO	307	89	---	---	---	---	---	396
NAL	69,305	177,992	4,613	21,279	116	82	---	273,387
NFC	---	6,000,000	---	---	546	327	---	6,000,873
OA	65,044	169,260	7,374	49,960	291	230	---	292,159
DADS	170,566	4,353	5,061	41,402	232	186	---	221,800
OALJ	4,849	112	---	925	7	7	---	5,900
OEO	31,037	4,944	6,804	9,946	58	45	---	52,834
OGC	74,192	4,421	455	36,314	196	156	---	115,734
OI	49,088	41,473	7,361	33,769	196	163	---	132,050
OMF	106,258	321,421	5,044	204,003	72	59	---	636,857
OO	227,836	116,175	4,031	30,300	182	149	---	378,673
OP	78,232	67,767	14,084	10,408	11,419	52	---	181,962
OGSM	79,199	1,407	---	1,850	---	52	---	82,508
PGSA	61,100	37,638	524	19,198	116	97	---	118,673
RDS	32,455	514	5,398	3,007	14	15	---	41,403
REA	384,550	58,924	32,720	123,281	1,084	357	---	600,916
SCS	627,358	435,137	30,573	3,651,013	23,061	11,537	---	4,778,679
SEC	198,267	1,049	54,172	9,483	51	45	---	263,067
SRS	460,238	399,904	21,017	175,785	1,893	5,820	---	1,064,657
Subtotal	\$ 8,609,751	\$ 24,996,332	\$ 1,968,521	\$ 25,129,656	\$ 325,237	\$ 74,334	---	\$ 59,103,811
GS	17,085	---	---	---	---	---	---	17,085
Other	19,920	1,706,668	326,085	---	---	---	---	2,086,873
Subtotal	\$ 8,646,756	\$ 26,703,000	\$ 2,294,606	\$ 23,129,656	\$ 325,237	\$ 74,334	\$ 34,200	\$ 61,207,769
Intra-fund								
billing	-140,768	-201,465	-13,700	-6,000,000	---	---	---	-6,355,933
NOHR	---	---	---	+178,000	---	---	---	+178,000
FAME	---	---	---	+30,867	---	---	---	+30,867
TOTAL, MCF	\$ 8,505,988	\$ 26,501,535	\$ 2,280,906	\$ 17,338,503	\$ 325,237	\$ 74,334	\$ 34,200	\$ 55,060,703



OFFICE OF THE INSPECTOR GENERAL

Purpose Statement

The Offices of Audit and Investigation were established by Secretary's Memorandum No. 1836, dated January 9, 1974. Prior to this date they were combined in the Office of the Inspector General, an office established by Secretary's Memorandum No. 1503 dated June 25, 1962 and No. 1524 dated December 21, 1962, to conduct internal audit and investigation of Departmental programs and to provide personal security to the Secretary.

The Office of Audit reports to the Assistant Secretary for Administration and is responsible for internal audit of the Department's programs. The Office of Investigation is responsible to the Secretary for investigate activities of the Department's programs worldwide and provides him with personal security. OI also has responsibility for protecting USDA personnel, facilities and equipment throughout the Washington, D. C. complex. Both agencies work to assure compliance with existing laws, policies, regulations and programs of the Department's agencies, and to provide appropriate officials with the means for prompt corrective action where deviations have occurred. The scope of audit and investigate activities is large and includes administrative, program and criminal matters. Their activities are coordinated, when appropriate, with various audit and investigative agencies of the executive and legislative branches of the Government.

The Offices of Audit and Investigation each have regional offices colocated in the following cities: Hyattsville, Maryland; Atlanta, Georgia; Chicago, Illinois; Temple, Texas; Kansas City, Missouri; and San Francisco, California. The Office of Investigation also has a regional office in New York City. As of October 1976, the Office of Audit's employment was 556 including 56 in Headquarters, Washington, and 500 in the field.

The Office of Investigation had total employment of 324 with 53 in Headquarters, Washington, and 271 in the field.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

	Actual 1976		Estimated Available, 1977		1978 Budget Estimate	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Office of the Inspector			a/	b/		
General	\$24,223,000	822	\$27,361,000	909	\$28,058,000	941
Obligations under other USDA						
appropriations:						
Agricultural Marketing						
Service for quarterly						
review of Performance of						
supervisory grain						
inspectors	100,000	4	100,000	4	100,000	4
Name check services						
requested by the Business						
and Industrial Loan						
Division of Farmers Home						
Administration	11,002	1	11,400	1	11,400	1
Foreign Agricultural Ser-						
vice for travel incurred						
in maintaining the						
cooperator fiscal audit						
program and in conducting						
"Special (unscheduled)						
Audits"	11,847	- -	19,000	- -	19,000	- -
Agricultural Marketing						
Service for services in						
connection with warehouse						
inspection	- -	- -	200,000	7	- -	- -
Total, Other USDA						
Appropriations	122,849	5	330,400	12	130,400	5
Total, Agriculture ...						
Appropriations	24,345,849	827	27,691,400	921	28,188,400	946
Other Federal Funds	109,284	4	100,000	4	100,000	4
Non-Federal Funds	195,867	6	163,000	5	163,000	5
Total, Office of the						
Inspector General	24,651,000	837	27,954,400	930	28,451,000	955

End-of-Year Employment:

	1976 Actual	1977 Estimated	1978 Estimated
Permanent full-time	833	918	918
Other	38	35	35
Total	<u>871</u>	<u>953</u>	<u>953</u>

a/ Excludes proposed supplemental of \$396,000 for audit and investigative services for FGIS.

b/ Excludes 14 man-years associated with proposed supplemental.

OFFICE OF THE INSPECTOR GENERAL

	Office of the Inspector General	Transfer from Food and Nutrition Service	TOTAL
Appropriation Act, 1977	\$18,434,000	\$7,932,000	\$26,366,000
Budget Estimate, 1978	28,058,000	- - a/	28,058,000
Increase in Appropriation ..	+9,624,000	-7,932,000	+1,692,000
Adjustments in 1977:			
Appropriation Act, 1977 ..	18,434,000	7,932,000	26,366,000
1977 Supplemental Appropriations:			
Pay costs	+696,000	+299,000	+995,000
Adjusted base for 1978	19,130,000	8,231,000	27,361,000
Budget Estimate, 1978	28,058,000	- -	28,058,000
Increase over adjusted 1977 .	8,928,000	8,231,000	+697,000

a/ See the explanation of language changes for the justification of the change in the FNS transfer.

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	1977	Increase or Decrease	1978 Estimate
Audit	\$15,638,000 a/	+\$119,000	\$15,757,000
Investigation	9,293,000 b/	+580,000	9,873,000
Uncontrollable overtime	300,000	-300,000	-0-
GSA space rental costs	645,000	+176,000	821,000
Annualization of the pay cost increase effective in FY 1977	995,000	+23,000	1,018,000
Other operating costs:			
Postage	32,000	+4,000	36,000
Telecommunications	167,000	+20,000	187,000
Other support costs	291,000	+35,000	326,000
Working Capital Fund Services	(385,000)	+40,000	40,000
TOTAL	27,361,000	+697,000	28,058,000

a/ Excludes \$89,000 proposed supplemental for audit services to FGIS.

b/ Excludes \$307,000 proposed supplemental for investigative services to FGIS.

PROJECT STATEMENT
(On basis of adjusted appropriation)

	: 1976 :	: 1977 :	: 1978 :
	: (Estimated) :	: Increases :	: (Estimated) :
1. Audit	\$13,882,828:	\$16,659,000a/:	+\$160,000(1):\$16,819,000
2. Investigation	9,086,986:	10,702,000b/:	+537,000(2): 11,239,000
Unobligated balance	1,253,186:	- - :	- - :
Total available or estimate ..	24,223,000:	27,361,000:	+697,000 : 28,058,000
Proposed supplemental for pay :	:	:	:
increase	- - :	-995,000 :	:
Total appropriation	24,223,000:	26,366,000:	:

a/ Excludes \$89,000 proposed supplemental for audit services to FGIS.

b/ Excludes \$307,000 proposed supplemental for investigative services to FGIS.

EXPLANATION OF PROGRAM

AUDIT. The Office of Audit is responsible for internal audit of the Department's programs. Its function is to provide the Secretary with independent and objective reviews of the Department's programs and activities. It assures prompt and appropriate corrective action in those instances where there is a deviation from established policy, regulation or law. It also coordinates its audit activities with other audit agencies of the executive and legislative branches of Government.

The Office makes essentially two types of audits:

- Cycle audits, which are performed on a recurring basis and cover all of the activities of a particular organizational entity; and
- Program audits, which covers parts or all of entire programs on a nonrecurring basis.

Each year a schedule is prepared of the audits to be performed in the following year. The Office issued 2,232 audit reports in fiscal year 1976. An estimated 2,411 are to be issued in fiscal year 1977 and 2,296 in fiscal year 1978.

The number of audit reports to be issued decreases each succeeding year due to reduction in the number of cycle audits and increases in the number of program audits. Program audits have a broader scope requiring more time to complete than cycle audits. This change in the allocation of resources will result in improved audit coverage and increased effectiveness.

INVESTIGATION. The Office of Investigation performs all investigative activities of the Department and provides personal security to the Secretary. The Office investigates all violations of criminal statutes relating to the Department except for the limited instances where another Federal agency (usually the FBI and Secret Service) has primary jurisdiction and chooses to assert it. The Office also investigates program violations and non-criminal employee misconduct cases. Its investigation reports may support administrative actions by USDA, other Federal agencies, and State and local authorities. Legal actions that result are processed with the Justice Department and local law enforcement agencies through USDA's General Counsel. The Office coordinates its investigative activities with those of other investigative agencies of the executive and legislative branches of Government.

The workload of the Office is difficult to estimate due to the responsive nature of the activities. Investigations are generated in several ways including:

- Complaints from the general public, some of which are referred to the Office by Members of Congress;
- Requests from the Secretary;
- Questions raised by audit reports;
- Requests from Department agencies (e.g. food stamp investigations requested by the Food and Nutrition Service); and
- Initiation by the Director of the Office of Investigation.

JUSTIFICATION OF INCREASES AND DECREASES

(1) An increase of \$160,000 for audit activities consisting of:

- (a) An increase of \$14,000 for annualization of pay increases effective in 1977.
- (b) An increase of \$27,000 for Working Capital Fund services.
- (c) An increase of \$119,000 for audit services for FGIS.

Need for Increase. The United States Grain Standards Act of 1976, approved October 21, 1976, authorizes the establishment of the Federal Grain Inspection Service (FGIS). The Act transfers grain inspection responsibilities from the Agricultural Marketing Service to the new agency and authorizes Federal employees to make all original inspection and supervision of weighing of grain at export posts. Qualified State agencies, in existence on July 1, 1976, can be licensed by the Administrator FGIS to do this work. None of the licensed private inspection agencies will be permitted to make original inspections at export port locations. An estimated 2,700 Federal employees will be needed to operate the program when fully implemented, compared with about 200 employed under the previous Act.

The Office of Audit estimates that about 13 work years annually will be needed to audit the program; 11 direct work years and 2 administrative support. During FY 1978, 9 work years will be made available from lower priority work while an assessment is made of the nature and extent of continuing requirements in the light and actual operating experience.

The following table shows the anticipated application of direct manpower:

	<u>No. of Offices</u>	<u>Entities Per Year</u>	<u>Wk. Days Per Office</u>	<u>Total Annual Work Years</u>
FGIS Regional Offices	5	2.5	350	4.4
FGIS Field offices	32	10.0	20	1.0
State agencies	24	12.0	100	6.0
TOTAL				<u>11.4</u>

Audits will be conducted on an integrated management approach. Coordinated audits of the Regional FGIS offices will be made which will include tests of FGIS field offices and State agency operations for those State agencies supervised by the applicable FGIS Regional Office. The audits will include interviews of Federal and State personnel and examination of records at both the Federal and State levels. Emphasis will be directed toward evaluating the effectiveness of Federal supervision of the program and compliance by State and licensed inspectors and management with newly enacted provisions of the Act, including those relating to conflict of interest.

The Office is requesting a supplemental of \$89,000 to fund four positions for nine months in fiscal year 1977.

Plan of Work. The Office of Audit is requesting an increase of \$119,000 to fund four audit work years. The remaining nine work years will be absorbed in fiscal year 1978 by restructuring the distribution of audit time between agencies pending a reassessment as the FGIS program develops.

(2) An increase of \$537,000 for investigative services consisting of:

- (a) An increase of \$9,000 for annualization of pay increase effective in 1977.
- (b) An increase of \$13,000 for Working Capital Fund services.
- (c) An increase of \$176,000 for GSA space rental costs.
- (d) An increase of \$580,000 for investigative services for FGIS.

Need for Increase. During the fiscal year 1976, the grain inspection program remained a prime area of concern within the Department. The Office of Investigation has continued to respond to the excessive demands of the grain program through a constant reprogramming of OI manpower from other USDA investigative programs. OI expended 40 work-years in fiscal year 1975. In addition, the United States Grain Standards Act of 1976, approved October 21, 1976, authorizes the establishment of the Federal Grain Inspection Service (FGIS). The Director of the Office of Investigation is directed to study the extent of any irregularities or problem areas under the present inspection and weighing systems and conflict of interest rules and develop factual summaries of evidence disclosed in the Director's investigations into violations of the Act.

The Act also requires the Director of the Office of Investigation to report this findings to the Committee on Agriculture of the House of Representatives, the Committee on Agriculture and Forestry of the Senate and the Comptroller General no later than 18 months after the effective date of the Act.

Plan of Work. The \$580,000 requested will fund 21 investigative work-years to handle the continuing demands of the grain inspection program and the additional requirements of FGIS set out by the House and Senate Committees.

OI must conduct investigations of: (1) 10 State agencies expected to be delegated export inspection authority to insure against conflicts of interest prior to delegation of authority; (2) 40 interior entities (Boards of Trade, Chambers of Commerce, Grain Exchanges) and about 40 private inspection agencies in the interior for the same purpose; (3) continuing investigations regarding the operation or administration of the Act "as the Director (OI) deems necessary to assure the integrity of official weighing and inspection under this Act"; (4) reports of attempts to improperly influence any official inspection personnel or assaults, intimidating or interference with such persons in performance of their duty -- the large number of new Federal inspectors (2,000 or more) will add substantially to demands for immediate investigative response; (5) "pre-designation" of inspection agencies must be completed for each entity. These investigations are not a "one-time" exercise. As complaints or intelligence develop indicating inspection/weighing violations more intense investigations will be conducted; and (6) foreign complaints, cancellation of export contracts and other program violations.

A supplemental appropriation of \$307,000 is proposed for FY 1977 to finance the added costs stemming from the enactment of the U.S. Grain Standards Act of 1976.

- (e) An increase of \$59,000 for operating costs.

Need for Increase. Expenditures in the Office of Investigation for essential services such as postage, telecommunications, printing, supplies and materials and other support costs continue to increase substantially each fiscal year. In FY 1977 total operating costs, excluding salaries, benefits and travel, are expected to consume approximately 13% of the total funds currently available.

The following is a breakdown of the items for which additional funds are requested:

<u>Item</u>	<u>Amount</u>
Communications	\$20,000
Postage and Fees	4,000
Other support costs	<u>35,000</u>
Total	<u><u>59,000</u></u>

- (f) A decrease of \$300,000 for premium pay (overtime) from the FNS transfer.

The Premium Pay Program has been in existence sufficient time to be evaluated. It has been determined the program is not cost effective to the Office of Investigation.

STATUS OF PROGRAM

OFFICE OF AUDIT

The Office of Audit (OA) is responsible for auditing all activities of the Department of Agriculture. OA reports to the Assistant Secretary for Administration. The audit service includes an independent and objective review and examination of the Department's programs and activities, and appropriate reporting to responsible officials at various management levels. Emphasis is on improved accountability for the Department's resources; increased efficiency and effectiveness in meeting program and administrative objectives; and integrity throughout the Department's programs and personnel.

Examples of OA Audit Work in Fiscal Year 1976

Some examples of the extent and nature of work performed by OA in Fiscal Year 1976 follow. In each instance the responsible agency has either completed or is in the process of taking necessary corrective action.

I. Farmers Home Administration (FmHA)

During FY 1976, OA issued a total of 628 audit reports, including 511 county, 15 State coordinated, 65 overview and special, 7 Finance Office, and 30 program reports. The following are some of the results of our activities:

A. Finance Office Operations

Audit of the FmHA Finance Office operations disclosed inadequate internal controls, accounting procedures, computer utilization, and program requirements. The corrective action we recommended, upon which the Agency is acting, should result in more economical, timely, and meaningful management reports; in estimated annual savings of over \$100,000 by reducing manual operations and using improved procedures; and in more accurate and prompt processing of unliquidated obligations, contingent liabilities, and miscellaneous collections.

B. State and County Operations

1. Loan Eligibility

More than \$107 million in loans under the rural housing, emergency and rural rental housing programs were questionable. Some primary factors and conditions affecting the eligibility of these loans were:

Rural Housing Loans

- Loans in urban and/or rapidly urbanizing area
- Excessive borrower income
- Fraudulent certification of income
- Loans in substandard, flood-prone, or non-approved subdivisions
- Loans in subdivisions without adequate street provisions
- Municipal systems dumping untreated sewage into waterways
- Septic systems not approved
- Financing available from other sources
- Loans at 100% instead of 90% of market value when applicable
- Borrower had adequate housing when loans were made

Emergency Loans

- Disaster conditions less severe than reported, and insufficiently documented
- Applicant data not verified to reliable sources

- Inaccurately determined production costs and losses
- Acreage, yields, and unit prices not representative
- Inclusion of crop losses unrelated to drought
- ASCS disaster payments not considered.

Rural Rental Housing

- Pre-loan rental housing surveys not adequate
- Projects did not meet rental needs.

2. Rural Housing - Interest Credit

Our nationwide audit of 150 statistically selected rural housing loans with interest credit agreements, projected that interest credits were overstated by a net total of about \$44.1 million. The excess was due partly to borrower income being understated when the agreement was approved.

3. Rural Housing - Abandoned and Acquired Properties

Audit in 16 states noted deficiencies in the handling of 519 abandoned or acquired properties. Deficiencies concerned: prompt liquidation action not taken; properties were not physically secured; and caretakers had not been obtained; and, houses were occupied by someone other than the borrower and leases had not been obtained. We noted numerous incidents of vandalism of vacated houses.

FmHA has taken corrective action on those problems amenable to ready solutions. For others, they have established management objective plans to seek long range solutions.

II. Food and Nutrition Service (FNS)

A. Summer Food Service Program for Children

Audits were performed of 40 service institutions that operated summer food service programs. These audits disclosed about \$6.5 million of institution claims were ineligible for reimbursement. In September 1976, 5 persons were indicted by a U. S. Grand Jury for fraud in connection with the claim of one of these institutions. The indictment was based, in part, upon our audit work. The Grand Jury inquiry into the program was continuing.

B. Food Stamp Program

1. Control of Cash and Coupons

A nationwide audit of sales activity from July through October 1975, disclosed 1,230 issuing agents who had \$27.6 million in late deposits, \$6.5 million in nondeposits, and \$130,000 in coupon shortages. FNS corrected many of the procedural and system weaknesses that precipitated the problems with cash accountability, and they are in the process of following-up with State agencies to get the problem agents current. We are currently reviewing the results of their follow-up efforts.

One State had not remitted to USDA between \$3 and \$4 million in food stamp receipts that had been deducted from replacement welfare checks. These deductions were for recipients who reported their original Authorization to Purchase cards lost or stolen.

A FNS computer error listing showed that \$136 million in food coupons had been shipped to food stamp issuing agents not on the master directory. However, the problem had not been researched to determine whether coupons

were shipped to unauthorized agents, and to have the errors corrected and reentered into the system. Our audit identified seventy shipments valued at about \$29 million that were made to 54 issuing agents who had ceased operations. We traced the disposition of 20 of these shipments and confirmed that the coupons had been transferred to other points and no loss occurred. We referred the other cases to FNS for follow-up and corrective action along with eight agents who had been terminated from the FY 75 master directory but were still on the February 1976 shipping list.

2. Federal Financial Participation (FFP)

Audits in eighteen States disclosed overclaims of approximately \$12 million for unallowable administrative costs. Overpayments were made on State claims for reimbursement for costs incurred prior to October 1, 1974 (the effective date of the law which authorized FNS to pay 50% of State administrative costs); expenses that provided no benefits to the FSP; and direct charges of operating public assistance programs.

3. Certification

Substantial losses to the program continued because of improper or incomplete certification and recertification processes. Typical errors reported were (a) gross or net income incorrect, (b) excess shelter deductions, (c) unallowable deductions, (d) household sizes incorrect, (e) certifications not updated for changes in public assistance status, (f) collateral contacts not made on questionable cases, (g) work registration requirements not met, and (h) recertifications overdue.

Examples of error rates:

- A Statewide random sample in one State disclosed a 33 percent error rate for a three-month test period, resulting in overissuances of bonus coupons totaling at least \$2.1 million.
- A statistical sample in a project area with 50,000 participating households disclosed a 49 percent error rate and overissuance of at least \$900,000 during a three-month test period.
- Random sample of a single project area with about 5,000 participating households, disclosed a 45 percent error rate which resulted in overissuances of at least \$109,000 during a three-month test period.
- At a large metropolitan area over 18,000 households were issued Authorizations to Purchase with bonus authorizations of more than \$1.2 million for one month, although their certification periods had expired.

III. Agricultural Stabilization and Conservation Service (ASCS)

Emergency Livestock Feed Program

Based on selective reviews in 32 of 81 participating counties in four States, audit found that about 300 of the approximately 3000 participants in those 32 counties were not eligible for program benefits. These participants benefited, in total, by about \$900,000 (the amount by which the market value of the quantity of oats bought exceeded the amount paid to CCC for such oats). Actions by ASCS offices on our recommendations have not been consistent. One State Committee's actions were fully responsive

and action has been taken to recover Program benefits from 150 participants who, they determined, were not eligible. Other Committees' actions were less responsive or they took no corrective action at all. This has resulted in inequitable treatment of livestock producers.

IV. Commodity Credit Corporation

Dairy Price Support Program

CCC's inventory of nonfat dry milk (NFDM) by January 31, 1976, was over 400 million pounds and was expected to increase substantially during 1976. Our review disclosed a contributing factor was that during the past ten marketing years, when the purchase prices were established for butter and NFDM, a disproportionate share of the increase was given to NFDM.

Over 100 million pounds NFDM of the above inventory had deteriorated to standard grade and was in danger of further deterioration or spoilage. Outlets for disposing of this NFDM were primarily limited to P. L. 480, Title II donation programs which, at most, would take only 100 million pounds through September 30, 1976, and an additional 200 million pounds in FY 1977. CCC took immediate action. As of April 1, 1976, when the dairy price support rate was increased, none of the increase was allocated to NFDM. As a result, CCC purchased about 200 million pounds less than anticipated. In addition, CCC promptly began selling their standard grade milk on the domestic market. We estimate that over \$100 million was saved through June 30, 1976, and future savings should be similar.

In this same audit, we noted that specifications for processed cheese purchased by CCC were higher than specifications for processed cheese sold commercially. This resulted in additional costs of about \$2 million in calendar year 1975. CCC took prompt action to correct this situation. Specifications have been changed so they are now comparable to processed cheese marketed by commercial firms.

V. International Programs

A. Foreign Grain Export Complaints

A review of the method for handling grain quality complaints revealed a lack of coordination within the Department and it therefore could not be used as a measure of buyer reaction to the quality of grain shipped overseas. Although the number of complaints received was relatively small, the system did not encourage feedback.

We concluded that the overall handling of foreign complaints, as reflected in current policies of the three agencies, needed to be strengthened both in terms of providing satisfactory information and replies to complainants, and in channeling vital management information to responsible agency officials.

As the result of our review, the Secretary designated FAS as the agency responsible for coordinating all activities within the Department related to handling foreign complaints. In addition, specific recommendations were made to, and adopted by, each of the agency Administrators for program improvement.

B. Public Law 480 Contract Review - Extended Delivery Period

This audit disclosed that financial benefits in excess of \$3 million may have been made available to exporters or ultimate suppliers, as a result of extension of delivery periods. The extensions more than likely enabled exporters to get the commodity at a lower cost than if they obtained the commodity during the period of the original contract.

The report was referred to the Office of Investigation to determine criminal implications. Claims against exporters are planned, but are pending the outcome of OI investigations and the recommendations of the Office of the General Counsel. Audit recommendations to prevent these practices in the future are being implemented, insofar as practicable, and appropriate revisions in financing regulations are being considered.

VI. Forest Service (FS)

Office of Audit coverage of FS programs included seven program audits and three Regional coordinated audits. The following are highlights of some of these audits.

A. Reforestation and Timber Stand Improvement

A nationwide audit of these activities showed need to: (1) more clearly identify backlog acreage to be accomplished by 1984; (2) develop meaningful plans to accomplish identified backlog acreage; (3) make silvicultural examinations and prescription on areas requiring treatment; (4) improve quality of environmental analysis reports for areas being treated.

B. Presale Timber Activities

A nationwide audit of this activity showed that the job standards established to meet requirements of various laws, regulations, and land management responsibilities were often compromised or delayed to meet quantity outputs. Silvicultural examinations and prescriptions frequently were not made in accordance with Forest Service policy. Environmental analysis and timber sale reports often did not fully explain the problem-solving, decision-making process used in preparing timber sales.

The Forest Service has initiated action to improve some of the recommended areas, and is developing action for others.

VII. Soil Conservation Service (SCS)

Our nationwide audit of the Resource Conservation and Development program disclosed a need to develop a more effective system for evaluating project activities and accomplishments. Project objectives were generally too broadly defined and there was no uniform criteria for measuring progress and accomplishments. Also, policies and procedures are needed for reducing and/or terminating assistance to low producing projects and those on which major goals have been accomplished. Numerous laws govern the Service's authority to provide program assistance on Indian Trust Lands, but various officials were unsure of how to deal with such requests for assistance because necessary guidelines and restrictions had not been incorporated into operating instructions.

The Agency is in the process of acting on our recommendations to improve these operational areas.

VIII. Animal and Plant Health Inspection Service (APHIS)

A. Plant Protection and Quarantine (PP&Q)

A Regional audit disclosed a lack of industry commitment and other uncertainties regarding the Citrus Blackfly Program. Treatment measures involving both chemical and biological control had been utilized without adequate survey and evaluation tools to show that either an eradication or control program was technically feasible. Also PP&Q had participated on and off since 1966 in a Range Caterpillar program using contingency funds.

We recommended that future participation in this program should be based on appropriate program regulations and a study to determine if control is economically feasible.

The agency is studying these program areas to determine appropriate action to be taken. PPQ reports that while industry was not committed to an eradication program without reasonable assurance of success, they have expressed concern over the Citrus Blackfly as an economic threat. PPQ has made no claim that the eradication of citrus blackfly is feasible with current available techniques. They feel funding is justifiable to permit containment of the pest in both Texas and Florida while research and methods development are stepped up to achieve a breakthrough situation, permitting a full scale eradication effort.

B. Meat and Poultry Inspection Program (MPIP)

An audit of one Region disclosed that MPIP needed to (1) develop and implement guidelines to regulate food salvage industry, (2) require inspection personnel to have periodic physical health examinations, (3) develop and implement stronger regulations covering the labeling of meat and poultry products, and (4) improve the means by which employees report possible conflict of interest situations so that appropriate actions can be taken to resolve them.

The Agency is considering our recommendations concerning these matters.

IX. Departmental Administration

A. USDA Centralized Retrieval System and Library of Audit, Management and Consultant Reports

During FY 1976, the Office of Audit developed an automated system to assist USDA managers in budget and planning decisions by providing a quick index of audit, management, and consultant reports involving USDA agencies. The reports included in the system are those covering USDA program activities which evaluate the efficiency and effectiveness of programs nationwide, have a nationwide impact, or require a response at the national level.

B. Use of Advanced Audit Techniques and Approaches

The Office of Audit is committed to the development and use of advanced audit techniques and approaches in meeting its audit responsibilities. These include techniques and approaches such as statistical sampling, economic analysis, results auditing, budget auditing and computer assisted audits. Various types of computer programs and software retrieval packages are used to perform many labor saving audit tasks. The use of audit software is prevalent among internal auditors in industry, and in CPA firms. During FY 1976 the following advanced techniques and approaches were used in audit work:

<u>Technique or Approach</u>	<u>Number of Times Used</u>
Use of the Computer	97
Analysis of Systems Design	16
Analysis of New Data Base Elements	16
Statistical Sampling	24
Economic Analysis	10

<u>Technique or Approach</u>	<u>Number of Times Used</u>
Budget Auditing	8
Results Auditing	<u>15</u>
Total	<u>186</u>

C. ADP Training Model

Inasmuch as most agencies of the USDA use computers, the Office of Audit established a formalized program to increase its auditors' knowledge in basic ADP concepts and controls. A general ADP training model was developed in FY 1976, to assist auditors and supervisors in selecting the training required to meet immediate and long-range needs.

The model was designed to identify the types of ADP training courses available and the prerequisite at varying levels of complexity. By relating the model to the annual audit program, OA managers can determine the number of employees needing ADP training and the courses that they should take.

D. Monitoring of ADP Systems Development

During FY 1976, a task group in the Office of Audit conducted a survey in USDA to determine the impact of ADP systems under development on the Office of Audit. The study showed that a total of sixty-two systems/subsystems in fifteen agencies were in the development stage and nine additional systems were proposed for development.

The study identified the systems and determined priorities for monitoring the development of these systems by the Office of Audit. The Office of Audit has begun monitoring the development of several of the systems identified as high priority. Problems disclosed to date include (a) inadequate documentation to support the justification studies and economic analyses, (b) security controls not included in system, (c) areas where present system design are not compatible with new system, (d) inadequate or non-existent project planning, (e) incorrect logic in system design, (f) inadequate management/audit trails, and (g) noncompliance with federal and departmental regulations.

These problems are reported to the developing agency which is then able to make adjustments while the system is still in development thereby averting the potential of compounding the problem in the future.

Currently OA has a project underway to identify all non-USDA ADP systems which were developed or are being developed with USDA cost assistance. The Plans for FY 1977 call for completing the study to identify non-USDA systems and to continue monitoring both USDA and non-USDA systems which have been identified as high priority.

OFFICE OF AUDIT

Obligations and Man-Years by Geographic Location
Fiscal Years 1976-1978

	<u>1976 Actual</u>		<u>1977 Estimated</u>		<u>1978 Estimated</u>	
	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>
California ..	\$1,915,910	72	\$2,539,700	97	\$2,571,900	98
District of Columbia ..	2,604,088	64	3,432,800	75	3,461,700	75
Georgia	2,118,932	79	2,382,000	84	2,384,100	84
Illinois	1,519,063	57	1,807,300	67	1,838,600	68
Maryland	2,461,818	95	2,869,800	108	2,902,300	109
Missouri	1,497,808	68	1,694,500	65	1,696,100	65
Texas	<u>1,765,209</u>	<u>67</u>	<u>1,932,900</u>	<u>69</u>	<u>1,964,300</u>	<u>70</u>
Total	<u>13,882,828</u>	<u>502</u>	<u>16,659,000</u>	<u>565</u>	<u>16,819,000</u>	<u>569</u>

OFFICE OF INVESTIGATION

OI investigates violations of criminal statutes relating to Departmental programs except for limited instances where another Federal agency such as the FBI or Secret Service has primary jurisdiction and asserts it. OI also investigates serious program irregularities and employee misconduct, and conducts intelligence and survey activity to detect major program abuse.

OI is designated a Criminal Justice organization and, through its staff of criminal investigators, issues reports which support criminal and civil action by the Department of Justice as well as administrative action by USDA agencies. Actions by the Department of Justice are either based on referral of OI reports by the USDA Office of General Counsel or by active direction of OI investigation, in some instances, by United States Attorneys.

Requests for investigation from USDA agencies continued the upward trend in FY 1976 indicated in both FY 1974 and FY 1975. However, there was a major redirection of investigative effort in FY 1976 to insure attention to major program abuse and improved responsiveness. OI realigned priorities so that complaints of minor program irregularity and minor employee misconduct were returned to agencies for resolution so adequate investigative resources could be targeted to situations posing the greatest threat to the integrity of the Department's programs. This move paralleled Department of Justice actions which indicated greater reliance on Departments to insure the protection of integrity of their own programs. This major policy decision, in effect, will reduce emphasis on the number of reports issued and emphasize the significance of the investigative effort and the professional quality of investigation. Some of the program areas where this high level effort occurred in FY 1976 follow:

A. Export Grain (AMS)

OI has continued to devote substantial manpower resources to these investigations, many of which have been conducted under the direction of various United States Attorneys and in conjunction with other investigative agencies such as the FBI and IRS. To date, a total of 100 criminal indictments and/or informations have been returned against 75 individuals and 10 firms resulting in total fines paid to date of \$1,031,200.00 and jail terms ranging from 30 days to serve to 5 years probation. Ten grain firms have entered either court-directed or voluntary "Affirmative Action Plans" with USDA to prevent future abuse within the grain industry. A new major effort, in addition to OI's continuing criminal investigations, has been the development of evidence for initiation of Civil Claims against companies which were involved in the false weighing and misgrading of grain. A new Grain Inspection bill has just been passed by Congress, largely as the result of the investigative disclosures of conspiracy, conflict of interest, and other abuses.

B. Food Stamp Program

Food Stamp Issue Vendors produced 4 indictments involving the mishandling of \$2,237,533 in funds. A number of trafficking investigations were successfully completed, the most publicized of which involved the arrest of 12 persons in New York City who had handled almost \$2,000,000 in food coupons through the theft and manipulation of Authorization to Purchase (ATP) cards. Continued coordination with U.S. Attorneys, Postal Inspectors and other authorities is expected to generate significant results in FY 1977.

C. Child Nutrition Programs (FNS)

An OI Intelligence Operation and specialized audit activity by the USDA Office of Audit identified fraud and collusion in the nationwide Summer Feeding Program. Misrepresentations and falsifications in claims, collusive relationships between sponsors and vendors and the diversion of food are all elements in a continuing major effort which is supported by U.S. Attorneys and involves the FBI in some phases.

D. Meat Inspection (APHIS)

OI directed special intelligence-surveillance operations toward this vital program, concentrating in the northeast. OI's effort is directed toward the organized and systematic circumvention of inspection regulations, involving either meat establishments or USDA inspectors, or both, in which the consumer is victim. The first indictments from this action were announced by the U.S. Attorney, Newark, when two establishment officials and three inspectors were charged with numerous counts of bribery. Additional significant results are expected from this continuing action.

E. Civil Rights

Increased referral of complaints of employment and program discrimination to OI in FY 1976 required an increase of 74% over the resources planned for this program. The increase in complaints was assessed as the result of increased effectiveness of USDA's EEO program whereby more employees are aware of their rights and channels for redress.

F. Rural Housing Loans (FmHA)

An upward trend continues in OI attention to fraud in Rural Housing loans, involving such areas of concern as borrower eligibility, abuse of interest credit provisions and unlawful realtor-contractor activity. OI carried out extensive investigations in several states in FY 1976 and has initiated intelligence-survey operations to discover any large scale irregularities. OI is also increasing activity in the Business and Industrial Loan and Guaranteed Loan programs to insure the integrity of these programs.

G. Other

In addition to these special effort areas, OI continued to provide routine investigative service to the agencies above, and others such as ASCS, ARS, Forest Service, REA, SCS, and smaller offices in matters involving both program violations and personnel misconduct.

OFFICE OF INVESTIGATION

Obligations and Man-Years by Geographic Location
Fiscal Years 1976-1978

<u>Location</u>	<u>1976 Actual</u>		<u>1977 Estimated</u>		<u>1978 Estimated</u>	
	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>
California	\$944,339	35	\$1,113,008	40	\$1,236,904	44
District of Columbia	1,339,078	49	1,583,896	56	1,684,948	60
Georgia	1,868,339	69	2,204,612	78	2,229,126	80
Illinois	999,562	37	1,177,220	42	1,190,310	42
Maryland	1,085,428	40	1,273,538	45	1,237,699	46
Missouri	947,477	35	1,113,008	40	1,236,904	44
New York.....	863,052	32	1,016,690	36	1,027,995	37
Texas	<u>1,039,711</u>	<u>38</u>	<u>1,220,028</u>	<u>43</u>	<u>1,345,114</u>	<u>48</u>
Total	<u>9,086,986</u>	<u>335</u>	<u>10,702,000</u>	<u>380</u>	<u>11,239,000</u>	<u>401</u>

OFFICE OF THE GENERAL COUNSEL

Purpose Statement

The Office of the General Counsel, prior to 1955 known as the Office of the Solicitor, was established in 1910 (70 Stat. 742) as the law office of the Department of Agriculture.

The Office provides all essential and necessary legal advice and services for the Department's ongoing programs, taking into consideration not only immediate needs but future requirements as well.

Geographic Location. The work of this office is carried out in Washington, D. C., and at fifteen field offices at the following locations:

Atlanta, Georgia
Chicago, Illinois
Milwaukee, Wisconsin
Denver, Colorado
Shawnee Mission, Kansas
Portland, Oregon
Ogden, Utah
San Francisco, California
Missoula, Montana
Little Rock, Arkansas
Stillwater, Oklahoma
Albuquerque, New Mexico
Harrisburg, Pennsylvania
Temple, Texas and
Hato Rey, Puerto Rico

As of October 31, 1976, the office had 351 employees of which 339 were permanent full-time.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

Item	Actual 1976		Estimated Available 1977		Budget Estimate 1978	
	: Man- :		: Man- :		: Man- :	
	Amount	Years	Amount	Years	Amount	Years
Office of the General Counsel	\$8,517,000:	335	a/ \$9,165,000:	332	\$9,461,000:	339
Obligations under other USDA appropriations:						
Agricultural Credit Insurance Fund,						
Farmers Home Administration - legal services on the emergency credit loan program:	58,538:	2	60,000:	3	60,000:	3
Total, other USDA appropriations	58,538:	2	60,000:	3	60,000:	3
Total, Agriculture appropriations	8,575,538:	337	9,225,000:	335	9,521,000:	342
Other Federal Funds	187,980:	6	500,000:	20	500,000:	20
Total, Office of the General Counsel	8,763,518:	343	9,725,000:	355	10,021,000:	362

	<u>1976</u> <u>Actual</u>	<u>1977</u> <u>Estimated</u>	<u>1978</u> <u>Estimated</u>
End-of-Year Employment			
Permanent full-time	339	355	355
Other	10	15	15
TOTAL	<u>349</u>	<u>370</u>	<u>370</u>

a/ Excludes proposed supplementals of \$106,000 for P&SA Amendments, P.L. 94-410 and \$50,000 for the U.S. Grain Standards Act of 1976, P.L. 94-582.

OFFICE OF THE GENERAL COUNSEL

Appropriation Act, 1977	\$8,708,000
Budget Estimate, 1978	<u>9,461,000</u>
Increase in Appropriation	<u>+753,000</u>

Adjustments in 1977:

Appropriation Act, 1977	\$8,708,000	
1976 Supplemental Appropriation for Pay Costs	<u>+457,000</u>	
Adjusted base for 1978		9,165,000
Budget Estimate, 1978		<u>9,461,000</u>
Increase over adjusted 1977		<u>+296,000</u>

SUMMARY OF INCREASES
(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increases</u>	<u>1978 Estimate</u>
Implementation of Packers and Stockyards Act amendments ..	-0- a/	+\$106,000	\$106,000
Implementation of U.S. Grain Standards Act of 1976	-0- a/	+ 50,000	50,000
GSA Space Rental Costs	500,000	+ 117,000	617,000
Working Capital Fund Services	(104,000)	+ 12,000	12,000
Increased pay costs	457,000	+ 11,000	468,000
All other	<u>8,208,000</u>	- -	<u>8,208,000</u>
Total available	<u>9,165,000</u>	<u>+ 296,000</u>	<u>9,461,000</u>

a/ Excludes proposed supplemental of \$106,000 for amendments to Packers and Stockyard Act and \$50,000 for the United States Grain Standards Act of 1976.

PROJECT STATEMENT
(On basis of adjusted appropriation)

	1976	1977 (Estimated)	Increase	1978 (Estimated)
		a/	(1)	
1. Legal services	\$8,406,027	\$9,165,000	+\$296,000	\$9,461,000
Unobligated balance	110,973	- -	- -	- -
Total available or estimate	8,517,000	9,165,000	<u>+296,000</u>	<u>9,461,000</u>
Proposed supplemental for pay increase costs :	- -	-457,000		
Total, appropriation ...:	<u>8,517,000</u>	<u>8,708,000</u>		

a/ Excludes proposed supplemental of \$106,000 for amendments to the Packers and Stockyards Act, and \$50,000 for The United States Grain Standards Act of 1976.

EXPLANATION OF PROGRAM

The General Counsel, as chief law officer of the Department, is responsible for providing legal services for all programs, operations, and activities of the Department. He is assisted by a Deputy General Counsel and four Assistant General Counsels, each of whom is responsible for a portion of the legal work of the Department. The functions of this office are carried out in the Washington office and in 15 field offices.

The field offices handle legal work relating to the activities of the field of the Agricultural Stabilization and Conservation Service, Commodity Credit Corporation, Farmers Home Administration, Federal Crop Insurance Corporation, Forest Service, Soil Conservation Service, and the Agricultural Stabilization and Conservation Committees. By special assignment of the General Counsel, Deputy General Counsel, or by an Assistant General Counsel, legal work relating to other programs and activities of the Department may be handled by a field office.

Legal Advice - The Office of the General Counsel issues both formal and informal opinions on legal questions arising in the administration of the Department's programs; prepares or reviews administrative rules and regulations applicable to the public; drafts proposed legislation, prepares or interprets contracts, mortgages, leases, deeds, and similar documents; prosecutes patent applications arising out of inventions by Department employees. The Office examines title to lands to be acquired by the Department or accepted as security for loans; and considers and determines claims by and against the United States arising out of the Department's activities.

Administrative Proceedings - The Department is represented by the General Counsel in administrative proceedings for the promulgation of rules having the force and effect of law and in quasi-judicial hearings held in connection with the administration of various programs.

Civil Litigation - Civil litigation arising out of the Department's work is handled by the Department of Justice, with the Office of the General Counsel assisting in the preparation and trial of such cases. The General Counsel represents the Secretary in administrative proceedings before the Interstate Commerce Commission involving freight rates on farm commodities and in appeals from the decisions of the Commission to the courts. By special assignment, the Assistant General Counsel for Legislation, Litigation, Research and Operations represents the Department in certain classes of cases before the United States Courts of Appeals.

Criminal Litigation - Cases having criminal aspects are reviewed for the purpose of referring them to the Department of Justice.

JUSTIFICATION OF INCREASES

- (1) An increase of \$296,000 for legal services consisting of:
 - (a) An increase of \$117,000 for space rental costs pursuant to P.L. 92-313.
 - (b) An increase of \$11,000 for the annualization of pay increases effective in FY 1977.
 - (c) An increase of \$12,000 for Working Capital Fund services.
 - (d) An increase of \$106,000 to implement amendments to Packers and Stockyards Act, P.L. 94-410.

Need for Increase. Amendments have been enacted to the Packers and Stockyards Act authorizing the Secretary of Agriculture to require packers to be bonded for their livestock purchases, to make prompt payment for such purchases, and to cease and desist from operating while they are insolvent except under such conditions as he may prescribe. The new legislation also authorizes the district courts to issue temporary injunctions pending completion of administrative proceedings for violations of the Act, which may be sought by the

Department of Justice or attorneys for the Department of Agriculture upon approval of the Attorney General. For the first time, attorneys from the Office of the General Counsel are authorized to go to court to secure injunctions enjoining packers from violating the Act.

Extensive legal services have already been required in connection with the interpretation and implementation of these new amendments and all indications are that the work load will continue to increase.

Plan of Work. This legislation has already been partially implemented in the transition quarter by: researching and providing answers to legal questions concerning interpretation of the current act and the effect of proposed amendments; interpretation of provisions of P.L. 94-410 and their application in enforcement of the act and required modification of current regulations; reviewing and drafting amendments of current regulations; orientation of administrative personnel on meaning and effect of amendments to the act and enforcement problems; conference with administrative field personnel on implementation of amendments to the act; development of legal and administrative procedures for handling applications in the District Courts for temporary restraining orders including drafting of forms of pleadings, motions, legal memorandums, and affidavits; handling first temporary restraining order (TRO) request to include preparation of documents, travel, coordination with Department of Justice and U.S. Attorney, travel to Oregon and appearance in District Court. The ongoing work of the six attorneys involved in this implementation process has been neglected to the extent of the time spent on the new act--96 attorney days--and as a result, the already existing hearing backlog has been increased by approximately 15 cases.

The Packers and Stockyards Administration has projected that as a result of the new act, they will generate, per year, 80 additional administrative cases and 155 requests for TRO's and preliminary injunction. We estimate that each such action will require, at the very least five attorney days to include preparation of documents, coordination with administrative officials, travel to and from the federal court district and appearance in court as required. Experience with our first case indicates that it may require more time but five days would be a conservative estimate. The estimated 155 cases per year would thus require more than three attorney-years. The 80 additional administrative cases will require more than two attorney years. Our attorneys are currently handling, on the average, about 33 cases per year. Another substantial demand for legal services will result from the statutory trust provision for unpaid livestock sellers. The Packers and Stockyards Administration projects 10 such occurrences per year.

A supplemental appropriation of \$106,000 is proposed for FY 1977 to finance the costs of the legal services to carry out the intent of this legislation.

- (e) An increase of \$50,000 to implement the United States Grain Standards Act of 1976, P.L. 94-502.

Need for Increase. The enactment of P.L. 94-582 amended the United States Grain Standards Act substantially by authorizing the establishment of a totally new agency within the Department of Agriculture to be called the Federal Grain Inspection Service (FGIS). It requires all grain being exported to be inspected, weighed and certified; and all persons engaged in these activities be registered and licensed. It provides for increased criminal penalties for violations of the Act and against any company or individual who has committed specific violations of the Act. This new legislation is expected to generate a tremendous increase in demand for the legal services of OGC.

Plan of Work. The Office of the General Counsel will be involved extensively by researching and providing answers to legal questions concerning interpretation of the current Act and the new amendments; interpretation of the provisions of P.L. 94-582 with regard to the operation of the new programs and functions authorized thereunder and their application and enforcement, drafting and revision of current regulations and development of totally new regulations relating to the new inspection and weighing functions required by the Act as well as operational regulations for the new agency; developing and reviewing instructions contained in a grain inspection manual for implementing the new inspection and weighing functions including supervision of the inspection and weighing functions required by the Act; orientation of administrative personnel on the meaning and effect of the amendments and on enforcement techniques and problems; conferences with administrative field personnel on implementation of the amendments to the Act; development of legal and administrative procedures for the handling of district court litigation including form of pleadings motions, legal memoranda and affidavits and conferences and development of policies and regulations with regard to establishing functions of the totally new agency; development of legal and administrative procedures for the handling of administrative actions relating to suspensions or revocation of licenses, registrations, or designations of official agencies and the refusal or denial of inspection or weighing services. Since this is a nationwide program extensive travel will be required with regard to investigative, court and administrative proceedings.

A supplemental appropriation of \$50,000 is proposed for FY 1977 to fund the extensive legal services required in connection with the interpretation and implementation of these new amendments.

STATUS OF PROGRAM

The Office of the General Counsel is responsible for providing legal services for all activities of the Department. These services include:

- The giving of opinions on legal questions arising in the administration of the Department's activities;
- The preparation or review of rules and regulations applicable to the public;
- The drafting of proposed legislation;
- The preparation and interpretation of contracts, mortgages, leases, deeds, and other documents;
- The prosecution of patent applications arising out of the inventions by the Department's employees;
- The examination of the title to lands to be acquired by the the Department or accepted as security for loans;
- The consideration and determination of claims by and against the United States arising out of the Department's activities;
- The representation of the Department in formal administrative proceedings;
- The referral of cases to the Department of Justice;
- Assisting that Department in the preparation and trial of cases involving the activities of the Department of Agriculture; and,
- Representing the Secretary of Agriculture before the Interstate Commerce Commission in proceedings involving freight rates on farm commodities and in appeals from the Commission to the courts.

PRODUCTION, DISTRIBUTION AND ASSISTANCE

Commodity Credit Corporation Programs and Operations. In fiscal year 1976, the Office of the General Counsel provided a wide variety of legal services to Commodity Credit Corporation, acting upon over 4,500 legal matters involving the Corporation's programs. The Corporation makes price support loans and purchases, carries out storage, sales, and export programs, and makes payments to producers under the feed grain, wheat, rice and cotton payment programs. Assistance was provided to producers through disaster feed grain donations, acute distress feed grain donations to Indians, and the livestock feed program.

In connection with these activities this office assisted in drafting about 300 regulations, amendments to regulations and notices and drafted or reviewed over 200 forms, agreements, and contracts. It provided legal advice on many questions relating to interpretation of statutes, the development of programs, and program operations. Considerable new activity was generated by the passage of the Rice Production Act of 1975, providing for a "target price", loans and purchases, and deficiency, disaster and land diversion payments. This office handled large numbers of claims by and against the Corporation, assisting in the recovery of large amounts on such claims. It also reviewed many investigation and audit reports and referred a large number of these to the Department of Justice for civil and criminal action.

	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>
Commodity Credit Corporation Cases:			
Number of cases referred to Department of Justice	159	119	98
Total dollar value of referred cases (millions)	\$3.7	\$1.8	\$1.3

	<u>FY 1974</u>	<u>FY 1975</u>	<u>FY 1976</u>
Number of cases pending in court or Department of Justice, end of year	384	352	309
Total dollar value of pending cases (millions) .	\$41.6	\$41.5	\$38.9
Total collections from litigation (millions)	\$3.4	\$3.0	\$3.9

Lower domestic stocks and higher market prices have caused a decrease in loan and purchase activity during the last two years, which has resulted in a decrease in new producer loan and warehouse cases. There was an increase, however, in admiralty and railroad cases as well as in other litigation involving infestation and contamination of nonfat dry milk.

The Office represented contracting officers of Commodity Credit Corporation before the Board of Contract Appeals on seven matters involving substantial claims arising under contract disputes clauses.

The office provided substantial assistance to Commodity Credit Corporation in various matters and proceedings before the Interstate Commerce Commission and the Federal Maritime Commission. Numerous legal problems continue to arise involving ocean transportation contracts, general average claims and cargo claims arising from contracts by Commodity Credit Corporation and voluntary relief organizations with ocean carriers for the movement of Title II, P.L. 480 cargoes. This office is representing the Corporation in a case before the Federal Maritime Commission involving a question of the applicability to the Corporation's cargo of a war risk surcharge provision in the carrier's tariff. The office also provided legal advice on many questions concerning the applicability of the U.S. Cargo Preference Law, which requires fifty percent of government sponsored cargoes to be carried by U. S. flag vessels.

P.L. 480 and International Trade. The legal work in the international trade area greatly increased. Assistance was given in connection with problems arising under the Trade Act of 1974 relating to agricultural commodities, such as eliminating non-tariff barriers, countervailing duties, tariff treatment, and trade relations with countries restricted thereunder. Numerous legal problems under GATT and other trade agreements were handled. Documents were drafted providing for cooperation between USDA and agencies of foreign governments in the development of agricultural trade and exchange of agricultural trade information and technology.

There was a large increase in legal work in connection with restraints on the importation of meat. Problems arose in the administration of voluntary restraint agreements entered into with supplying foreign countries under section 204 of the Agricultural Act of 1956 and the Meat Import Law, under which an import quota was imposed. Legal assistance was also given with respect to import controls under section 22 of the Agricultural Act of 1933. Legal problems arising in connection with the export sales reporting regulations were handled, and legal assistance was given with respect to the Large Area Crop Inventory Experiment being conducted in conjunction with other government agencies.

Assistance was provided in the drafting of agreements under Public Law 480, rescheduling and otherwise handling debt obligations incurred under the agreements, implementation of the currency offset provision of the Act, drafting and interpretation of regulations for financing of commodities exported, ocean freight, and other problems under the program.

Extensive legal service was rendered in fiscal 1976 and will continue to be rendered in connection with the investigation of and legal actions against U. S. grain exporters who falsified weight and quality on grain shipments under export programs of the Department.

Legal services were provided in connection with payment programs authorized by the Agriculture and Consumer Protection Act of 1973 and the Rice Production Act of 1975. These include the feed grain, wheat, cotton and rice disaster payment programs, the Rural Environmental Conservation Programs, and the Forestry Incentive Program. There has been an increase in the participation of the office in producer appeals in connection with payments and acreage allotments, including giving legal advice and assisting in drafting proposed determinations. The office continued to expend a large amount of time on the various administrative hearings being conducted in Texas and Washington to determine the liability of over 200 farm operators and producers in Gaines County, Texas, who had been determined to have wrongfully obtained approximately \$7,560,000 in 1973 upland cotton program payments through schemes and devices.

Assistance was provided in the collection of payments due from wheat processors under the certificate program. Cases involving the payment programs and the wheat processor certificate program referred to the Department of Justice for litigation are reflected in the following table:

Pending in the Department of Justice at the end of FY 1975	106
Referred during FY 1976	148
Closed during FY 1976	70

The cases pending at the end of fiscal year 1976 involved over \$9.5 million. Recoveries totaled over \$1.9 million.

Farm Acreage Allotments and Marketing Quota Programs. This office assisted in preparing over 50 acreage allotment, marketing quota, and related regulations and amendments. It referred to the Department of Justice over 25 cases involving the marketing quota programs and furnished litigation reports and assisted in the preparation for trial of numerous cases in which farmers sought judicial review of administrative determinations involving their farm marketing quotas. This office also participated as legal advisers at approximately 171 administrative hearings pursuant to 7 C.F.R. 711 and 780.

Crop Insurance. The office assisted in the preparation of over 20 amendments to the Federal Crop Insurance Regulations, including several new endorsements. Assistance was provided on 36 cases involving a wide variety of matters such as possible voidance of contracts for apparent misrepresentation, interpretation of contracts and subrogation rights. The office reviewed 10 cases of overpaid indemnities and handled 14 suits filed against the FCIC. Several important cases were on appeal. The office provided legal advice concerning the operation of the Federal Crop Insurance Corporation when its reserve was in danger of depletion due to an unusually high crop loss experienced in the upper Mid-West states due to a long severe drought.

Other Services. This office prepared a complete revision of the Agricultural Stabilization and Conservation Service's compilation of statutes. Legal services were also furnished in connection with legal problems arising under the Defense Production Act, delegations of authority thereunder, and stand-by food orders. There has been a heavy volume of requests made to ASCS, CCC, FAS, FCIC, and the Office of the General Sales Manager under the Freedom of Information Act which required legal assistance. The Office has also assisted these agencies in the development of regulations and guidelines under the Privacy Act of 1974.

Food Assistance Programs. During fiscal year 1976, total activity under the Food Assistance Programs continued to expand. Benefits were increased in many programs and at the same time the number of participants in various programs also increased. The expansion of program activities and participants added to the number and complexities of the legal questions presented for consideration.

The volume of legal assistance required in connection with the Food Stamp Program continued at a high level. A greatly increased volume of legal assistance was required for the Child Nutrition Programs--School Lunch Program, School Breakfast Program, Special Milk Program, Summer Food Service Program for Children, and Child Care Food Program--due largely to expansion of the programs for economically needy children, as required by extensive legislative changes which became effective during fiscal year 1976. Increased funding and legislative changes for the Special Supplemental Food Program for Women, Infants and Children also resulted in greater demand for legal services during the fiscal year.

Litigation Under the Food Assistance Programs. During the fiscal year 1976, some 40 new lawsuits were instituted against the Department, challenging various aspects of Food Stamp Program operations. Most numerous among these suits were those challenging program regulations defining income for purposes of determining eligibility and level of benefits.

Litigation activities involving Food Stamp Program retailer and other violations continued at a substantial rate.

Also, during the year, a lawsuit was filed attacking the funding of the Special Supplemental Food Program and 11 lawsuits were filed involving other child nutrition programs, to wit, the Special Food Service Program for Children, the National School Lunch Program, the Breakfast Program, and the Summer Food Program for Children. The most important of such cases involved eligibility of institutions under the 1976 Summer Food Program and expansion of the School Lunch and Breakfast Programs within school districts.

Transportation Service. During fiscal year 1976 the office represented the Secretary, Commodity Credit Corporation, and the agricultural community in a number of proceedings before the Interstate Commerce Commission, and in one case before the United States Court of Appeals for the District of Columbia Circuit. The actions involve rates, charges, and practices relating to agricultural commodities and farm supplies.

Perishable Agricultural Commodities Act. In fiscal year 1976, approximately 497 reparation cases were instituted, and action was taken which resulted in disposing of approximately 386 cases. Approximately 259 cases were pending at the end of the fiscal year. Forty-one new disciplinary proceedings were instituted during fiscal year 1976 and 48 were disposed of. Thirty-seven cases were pending at the end of the fiscal year. In addition to orders disposing of cases, 32 additional orders were issued.

REGULATORY AND MARKETING

Marketing Agreements and Orders. During fiscal year 1976, 14 amendment hearings were held with respect to milk orders, one covered 34 orders, one covered four orders, and one covered three orders. A total of 73 amendatory actions were taken and a total of 15 suspensions were issued. In addition, there were three consolidation orders merging nine orders into three orders. All 50 existing milk orders were affected by the above actions.

Six amendment hearings were conducted and 8 amendment actions were taken with respect to fruit and vegetable orders. Also two suspension actions were taken.

The volume of litigation under marketing orders continued at a high level during fiscal year 1976. One-hundred-and-one legal actions were processed and 15 formal administrative proceedings were initiated by handlers; at the end of the fiscal year 170 court actions and 23 administrative actions were pending. It is to be noted that the trend both in litigation and order amendment hearings has been toward more complex proceedings. The amendment hearings deal more and more with the merger of orders and national hearings involving all orders. The litigation, both court and administrative, is more complex due to the increased size of the orders and the consequent increase in the number of handlers affected by the issues involved. We expect this trend to continue in the future.

Cotton Research and Promotion Act. Although the collection record under the Cotton Research and Promotion Order was good, there were still four enforcement actions pending at the beginning of fiscal year 1976. At the end of the fiscal year three cases were pending. The Act was amended in fiscal year 1976 to authorize a supplemental assessment in addition to the present one dollar per bale and also provided that the Department would be reimbursed by the Cotton Board for up to 5 employee man-years for administration and supervision. Considerable time and effort was expended with the Cotton Division, AMS, in preparing a notice of hearing, and in preparation for the hearing to be held in early fiscal 1977. Further considerable time and research was expended in resolving questions relating to ownership and use of patents developed in the research program. This is a very active program and involves almost daily contact with the Cotton Division.

Egg Research and Consumer Information Act. This Act was enacted in 1975 and required the issuance of an order. Promulgation hearings on such a proposed Egg Research and Promotion Order were held in five cities across the nation during fiscal 1975. In fiscal 1976 considerable work was involved in the preparation of recommended and final decisions and an order, and also on rules of practice for the conduct of a referendum. After approval by producers, considerable time and research was expended in the counseling of the Poultry Division in setting up the Administrative Committee and this is expected to continue well into fiscal 1977.

Egg Products Inspection Act. At the end of fiscal year 1975, two criminal actions were pending. During fiscal 1976 four civil and three criminal actions were referred to the United States Attorney. Seven additional criminal files have been referred to this Office by the Poultry Division and are in various stages of review and preparation for referral to the Justice Department. There was also considerable legal activity relating to the amendment of the regulations and to the administration of the regulatory provisions of the Act.

Federal Seed Act. Under the Federal Seed Act ten civil cases were pending and 16 new cases were instituted during fiscal year 1976. Of these, 7 were settled in favor of the Government without trial and 18 cases remained outstanding at the end of the year. One criminal case was pending and two were instituted during the same period. In addition, this Office worked with the Seed Branch on proposed amendments to their regulations. The Seed Branch advises that they continue to have a substantial backlog of cases which they are endeavoring to process for referral to OGC.

Grain Standards Act. Under the Grain Standards Act a number of possible violations of the Act were investigated by the Department during fiscal year 1976. In addition to four pending criminal actions, four new criminal cases were instituted. A number of cases are being held in abeyance pending completion of current grain investigations by the Department of Agriculture and the Department of Justice, which are projected to continue into fiscal 1977. Six license suspension actions were initiated, one licensee is still temporarily suspended on the basis of pending criminal indictments. The Secretary was the subject of a civil action for a declaratory judgment with regard to his supervision of an inspection made by an official inspection agency and this case is still in process. Additional effort was expended in aiding in the drafting of amendments to the Grain Act, which was enacted into law in October of fiscal 1977. We conservatively estimate that the legal services required under the new Act will be four times that previously required.

Tobacco Inspection Act. During fiscal year 1976, the Secretary was a defendant in two civil proceedings brought pursuant to the antitrust laws of the United States as a consequence of his administration of this Act. Neither case had reached decision by the end of the fiscal year. In addition, one case was instituted against the Department attacking the producer designation program and this was decided in our favor. During fiscal year 1976 OGC attorneys also spent considerable time counseling the Flue-Cured Tobacco Marketing Advisory Committee as well as the Tobacco Division, AMS.

Agricultural Marketing Act of 1946. During fiscal 1976 bribery convictions in the Los Angeles and other areas along with the continued vigorous enforcement of regulations dealing with voluntary standards, inspection and grading activities under this Act have created the need for considerable attorney time to advise administrative officials on administration of the Act and prosecution of actions arising thereunder. At the beginning of this fiscal year there were four civil actions pending. During this year one criminal and 22 administrative cases arose. There were three civil and 21 administrative actions pending at the close of the year. Such administrative and enforcement activity is scheduled to increase substantially in fiscal 1977. Considerable legal work was also required with respect to the drafting and review of notices of proposed rulemaking and final documents concerning amendments of regulations under the Act with respect to voluntary inspection services, and with respect to advice given to officials of this Department and others in connection with such voluntary inspection programs.

Potato Research and Promotion Act. During fiscal year 1976, two civil actions were pending and three new ones initiated. Five cases were still pending at the end of the fiscal year. In addition, administration of the regulatory provisions of the Act generated continuous legal activity.

Beef Research and Information Act. During fiscal year 1976 Congress enacted the Beef Research and Information Act authorizing a Research and Promotion Order for beef and its products. Substantial time and effort was expended in working with the individuals and developing a proposed order for a notice of hearing and we participated with the Livestock Division, AMS, at six of the hearings. Considerable effort will also be expended in fiscal year 1977 with regard to issuance of recommended and final decisions. If the order is approved by producers substantial time will have to be expended in organizing the Administrative Committee and developing rules and regulations for the program.

Animal and Plant Quarantine Laws. During fiscal year 1976, 195 criminal cases under the Animal and Plant Quarantine laws were referred to this office, and 146 of these cases were referred by this office to the Department of Justice. This represents an increase of 13 cases referred over fiscal year 1975. Several of these criminal cases involved multiple offenses and multiple defendants. At the end of the fiscal year, 78 criminal cases under the Laws were under consideration and pending in the Department.

Eight administrative proceedings were handled during the year involving suspension or revocation of veterinary accreditations for violations of standards by accredited veterinarians while engaged in veterinary work under the Animal Quarantine programs.

Extensive legal work was also done in fiscal year 1976 in connection with the review and clearance of approximately 67 proposed regulations, notices of proposed rulemaking, and legal notices under the Animal and Plant Quarantine laws, and about 11 additional notices and final documents were reviewed and pending at the end of the fiscal year. Several of these reviews included the drafting of legal memoranda with respect to questions presented in the rule-makings, proposals, and legal notices.

Extensive legal work was done on Animal Quarantine litigation arising from controversy over the quarantining of the State of Texas because of the existence of brucellosis. This included preparation of briefs and participation in a hearing in the U.S. District Court in Austin, Texas. The court withheld a decision until expiration of a State court temporary injunction which orders Texas to be in compliance with minimum requirements imposed by USDA.

Considerable legal work was also required in connection with the drafting or review of proposed bills and review of reports concerning amendments to the Animal and Plant Quarantine laws, in connection with the review and clearance of cooperative agreements, and in connection with advice given to officials of the Department, the Department of Justice and other persons concerning legal questions arising under the Laws.

Federal Noxious Weed Act of 1974. During fiscal year 1976, this office drafted and reviewed proposed regulations designed to implement the provisions of the Federal Noxious Weed Act of 1974. Also, considerable legal work was required during the year with respect to legal advice given to officials of this Department.

Honeybee Act. During fiscal year 1976, extensive legal services were required with respect to amendments of the Act.

Horse Protection and Animal Welfare Acts. During fiscal year 1976, extensive legal services were required in connection with civil, administrative, and criminal proceedings under these Acts as well as written and oral requests for views and opinions from officials of this Department, the Department of Justice, U.S. Attorneys, and other persons concerning various legal questions arising under the Acts. Numerous reports of violations were reviewed with appropriate action taken. During the year, 29 investigative reports were referred to the Department of Justice and 56 administrative proceedings were initiated under the Acts. The administrative proceedings included the issuance of 29 proposed stipulations and 21 complaints for violations of the Horse Protection Act of 1970 and regulations thereunder, and 27 complaints for violations of the Animal Welfare Act and regulations and standards thereunder. Fifteen administrative proceedings went to hearing before Administrative Law Judges of the Department, and eight Initial Decisions by such Administrative Law Judges were appealed to the Judicial Officer of this Department during fiscal year 1976. As the result of the institution of such actions by the Department, \$11,250 in civil penalties were assessed under the Horse Protection Act of 1970. Many of the administrative proceedings were still pending as of June 30, 1976. Extensive legal work was also required in connection with

drafting or reviewing regulations and proposed amendments to the Acts and related proposed legislation.

On April 22, 1976, the Animal Welfare Act Amendments of 1976 (Public Law 94-279), which extensively revise the Animal Welfare Act, were enacted. They prohibit certain animal fighting ventures, particularly dogfighting and cock-fighting, extend regulation by this Department to carriers and intermediate handlers with respect to the humane handling and transportation of animals covered by the Act, require veterinarian certificates for the transportation of dogs, cats and other animals by carriers or intermediate handlers, in commerce, regulate and restrict C.O.D. transportation of animals and provide for civil penalties, assessed by the Secretary through administrative proceedings, of up to \$1,000.00 for each violation of the Act, regulations or standards. The new penalty provisions are in addition to civil, criminal and other administrative sanctions provided in the Act.

On July 13, 1976, the Horse Protection Act Amendments of 1976 (Public Law 94-360), extensively revising the Horse Protection Act, were enacted. They amend the Act to cover horse sales and auctions as well as horse shows and exhibitions, expand the enforcement provisions of the Act, require show management to disqualify sore horses, authorizing the Secretary to detain horses and provide for judicial seizure of certain equipment, devices, paraphernalia and substances, provide for increased civil, criminal and administrative sanctions, including the disqualification of persons who were convicted of criminal violations of the Act, or paid or were subject to civil penalties assessed by the Secretary under the Act, from participating in any horse show, exhibition or horse sale or auction.

Extensive additional legal services will be required in connection with the implementation and enforcement of the amendments to the Act, especially in connection with the drafting and reviewing of new and amended regulations, administrative and court litigation, and oral and written legal opinions and advice.

Meat and Poultry Products Inspection Acts. The demand for legal services under these Acts continued at a very high level during fiscal year 1976. About 70 notices of proposed rulemaking or final documents amending regulations under the Act were reviewed and cleared during fiscal year 1976, and about 14 additional notices and final documents were reviewed and pending at the end of fiscal year. Approximately 50 legal memoranda were written with respect to questions presented during these reviews and by the administrative officials.

We provided legal services in connection with nine civil court actions relating to the meat or poultry inspection programs in which Departmental or cooperating State officials were involved.

During fiscal year 1976, 64 criminal cases and four civil seizure cases were referred to the Department of Justice for the possible institution of court actions. Numerous other criminal cases were reviewed and disposed of, in accordance with the Act, without referral to the Department of Justice. At the end of the fiscal year, 74 criminal and two civil cases were under consideration and pending in this Department.

During the year, 21 administrative proceedings were instituted seeking withdrawal of federal meat and poultry product inspection from firms which have been convicted, or which have had responsible officials thereof convicted, of bribery of federal meat inspection personnel. These actions involved considerable legal work with respect to preparation for hearing proceedings. Two other withdrawal cases, which were instituted in fiscal year 1975, resulted in hearing proceedings during fiscal year 1976.

Extensive legal work was also required during the year, in regard to the drafting or review of proposed bills and reports concerning amendments to the Meat and Poultry Products Inspection Acts, review and clearance of cooperative agreements, and in regard to advice given to officials of this Department, the Department of Justice and other persons, concerning legal questions arising under these statutes.

Twenty-Eight Hour Law. Under the Twenty-Eight Hour Law, four civil cases were under review and pending in this office, and 22 cases were pending in the Department of Justice, as of June 30, 1976.

Virus-Serum-Toxin Act. Four criminal cases were pending on July 1, 1975. Two of these cases were referred to the Department of Justice during fiscal year 1976. Both cases have been closed. There were two cases involving administrative action, and one of these cases resulted in a loss of a product license. The regulations under the Act were almost totally revised, and 29 notices of proposed rulemaking or final documents amending regulations under the Act were revised and cleared by this office in fiscal year 1976.

In addition, approximately 32 items, such as letters, opinions and information transmittals involving questions arising under the Act, were issued or reviewed and cleared by this office during the year. There has also been continuing activity in revising the Virus-Serum-Toxin Act and drafting proposed amendments, and it is anticipated that this activity will continue into fiscal year 1977.

Other Miscellaneous Activities. Considerable legal work was also done by this office concerning legal questions involving requests under the Freedom of Information Act and the Privacy Act for information concerning Departmental activities.

Packers and Stockyards Act. In fiscal year 1976, 179 disciplinary and 24 reparation proceedings were instituted, as compared with 138 and 31, respectively, instituted in fiscal year 1975. At the end of the year, 212 disciplinary cases were on hand for institution or other action and 36 reparation cases, compared with 156 and 45, respectively, on hand at the end of fiscal year 1975. In fiscal year 1976 26 criminal and 62 civil enforcement cases were submitted to the Department of Justice, and at the end of the year 77 such cases were pending in the office, compared with fiscal year 1975 figures of 22 criminal, 37 civil, and 41 pending.

Increased enforcement activity of the Packers and Stockyards Administration in several areas continues to impose requirements for increased legal services. These areas are: Registration of custom feedlots acting as market agency or dealers, initiation of rate proceedings to modify illegal schedules of rates and charges for stockyard services, and enforcement of regulation 201.70a, which proscribes joint ownership or operation of packers and custom feedlots. In addition, the Administration plans to increase its investigations of the practice of packers purchasing the entire meat production of other packers and of commercial bribery by packers in connection with their meat merchandising. This will result in a substantial increase in disciplinary actions against packers; and these actions will involve complex factual and legal issues. Our experience in these areas indicates that the administrative hearings will be lengthy and decisions unfavorable to respondents will frequently be appealed.

During the fiscal year, substantial time was spent in defending lawsuits against the Secretary seeking to prevent enforcement of regulation 201.70a and the program to regulate certain custom feedlot operations mentioned above. Additionally, a lengthy court action which is still pending, to enforce the Secretary's orders for special reports by several livestock markets and the briefing and argument in an appeal of the Secretary's order in a disciplinary action required substantial attorney time. Recent amendments of the Freedom of Information Act have greatly increased the amount of legal advice required in this area. The implementation of the Privacy Act also required a great deal of attorney time.

Although this Department is no longer responsible for administration of the Commodity Exchange Act, two lawsuits against USDA officials arising out of that program continue pending in the courts and have required considerable attorney time.

The enactment of Public Law 94-410, on September 13, 1976, amends the Packers and Stockyards Act to authorize the Secretary of Agriculture to require packers to acquire bonds for their livestock purchases; to require most packers to hold all livestock, meat and receivables and proceeds therefrom in trust until all cash sellers of livestock to the packers have been paid; to expand the definition of "packer" to include additional persons; to authorize the Secretary to order packers to cease and desist from operating while insolvent except under such conditions as he may prescribe; to require prompt payment for livestock by packers, market agency, and dealers; and to authorize the district courts to issue temporary injunctions pending completion of administrative proceedings for violations of the Act, which may be sought by the Department of Justice or attorneys for the Department of Agriculture upon approval of the Attorney General.

These amendments will generate a large additional workload which will require prompt and extensive legal services especially in connection with the promulgation of new regulations and procedures, legal questions concerning the interpretation and implementation of the amendments, and the litigation and necessary coordination with the Department of Justice in connection with the enforcement of the new requirements and authorities. It is estimated that these amendments will generate 80 additional administrative disciplinary actions and 165 additional court actions. These actions will involve novel issues of law and types of proceedings and procedures with which assigned attorneys are unfamiliar. A great deal of attorney time was devoted to drafting service, legislative reports and appearances in Congressional hearings during consideration of these amendments.

COMMUNITY DEVELOPMENT AND NATURAL RESOURCES

Farmers Home Administration (FmHA). The volume of Farmers Home Administration direct, guaranteed, and insured loans and grants for fiscal year 1976, including the transition quarter, was \$7.2 billion. This activity was mainly under the Consolidated Farm and Rural Development Act, Title V of the Housing Act of 1949, and the Emergency Livestock Credit Act of 1974. These Acts permit financial assistance for farming, including the guaranteed livestock loan purposes, housing, community facilities, and business and industry. The Rural Development Act of 1972 substantially increased FmHA's authority and, among other things, permitted the agency to make, insure, and guarantee business and industry loans.

In this area legal work has significantly increased due to program level increases and to recently enacted and proposed legislation. This trend is expected to continue in fiscal year 1978. This type of non-routine legal work, involving new and expanded program authorizations, statutory interpretations, drafting and approval of FmHA regulations, interpretation and application of new regulations, etc., is particularly time-consuming. Examples of such new legislation include the Housing and Community Development Act of 1974 which substantially increased the scope of the FmHA housing programs under Title V of the Housing Act of 1949 and increased the agency's authority to carry out existing programs, and the extensive amendments to the Emergency Livestock Credit Act of 1974 which has now been extended through fiscal year 1978. Also, considerable time is expected to be expended on many proposed legislative suggestions, many of which are of highly technical nature to improve the loan making and servicing of FmHA's programs.

In addition, an increasing amount of time is being devoted to litigation and servicing actions of FmHA. Of principal concern is the number of suits

brought against the Government concerning the legality of nonjudicial foreclosure actions and construction defect claims. Legal assistance is needed to devise procedures by which such legal issues may be minimized without interfering with FmHA servicing requirements.

Rural Electrification and Telephone Programs. Developments in REA activity continue to require greater legal assistance for the REA programs. These increases are expected to be particularly important with respect to (a) loan guarantees for electric generating and transmission facilities involving complex joint financing and construction arrangements, between REA-financed power supply cooperatives and other electric suppliers, designed to achieve economies of scale, (b) accomodation of REA mortgages to facilitate "front-end financing" by third party lenders to REA-financed power supply cooperatives and (c) loan guarantees for telephone facilities involving complex arrangements under commercial mortgage indentures.

To protect REA loan security interests and help achieve program objectives consistent with achievement of National Environmental Policy Act objectives, REA continued to require substantial legal assistance in the review and development of loan proposals, as well as in the analysis and drafting of complex power supply arrangements, in complying with Congressional recommendations to make "power surveys", and in connection with significant litigation.

Advice and assistance continue to be provided in connection with operation of the Rural Telephone Bank.

Forestry and Other Land Programs. The Forest Service, the only agency of the Department charged with the administration of public lands, has jurisdiction and management responsibility of approximately 1/12 of the land area of the United States. Legal services in connection with these responsibilities of land administration and management have escalated. The Washington and field offices continue to provide legal assistance to the Forest Service in the preparation and interpretation of timber sales contracts, special use permits, and grazing use permits; the acquisition of lands and interests; the interpretation of private rights in minerals on national forest lands, water rights on national forest and other lands; and litigation matters.

Significant New Legislation. The enactment of the National Forest Management Act of 1976 (P.L. 94-588, 90 Stat. 2947) and the Federal Land Policy and Management Act of 1976 (P.L. 94-579; 90 Stat. 2743) will create great demand for legal services in statutory interpretations, implementation with respect to timber harvest, planning, grazing, rights-of-way, land acquisition and other important program areas. Both statutes will alter, change and enlarge existing programs in these areas.

In addition Congress enacted additional wilderness and national recreation area legislation such as the Alpine Lakes Wilderness Area Management Act in the State of Washington, the Hells Canyon National Recreation Area in Idaho and Oregon. Numerous other (nineteen) statutes affecting Forest Service programs were enacted by the 94th Congress which will create additional demands for legal services in their implementation.

Regulations and Appeals. Legal assistance was given in preparing Secretary's regulations for the protection and administration of National Forest System lands and reviewing Forest Service Manual instructions. New statutory authorities such as the National Forest Management Act of 1976 and the Federal Land Policy and Management Act (BLM Organic Act) are examples of new statutes that will require extensive new and revised regulations. In addition, statutory authorities require new regulations in specially designated areas such as Hells Canyon National Recreation Area in Idaho and Oregon, Alpine Lakes Wilderness Management Area in Washington.

The Administrative Appeal Regulation (36 C.F.R. 211.2, et seq.) and the Board of Contract Appeals (7 C.F.R. Part 24, et seq.) continue at a high level. A very large percentage of the Board of Contract Appeals cases are Forest Service related. All other appeals, such as those involving Forest Service policy and management issues, are handled within the Forest Service administrative review process, with the assistance and advice of Washington and field OGC offices. Additionally, Washington attorneys continue to render assistance to the Secretary and the Assistant Secretary in appeals that come to them for review. Attorneys continue to act as counsel for the Forest Service before the Board of Contract Appeals.

Litigation. Legal assistance continues to be given on a variety of actions and claims. These included unauthorized removal of timber, minerals, and other forest resources, unauthorized occupancy and use, cost of fire suppression and injury by fire to timber and other forest resources, breach of timber sales contracts, commission of petty offenses on the national forests, and water rights adjudications. The litigation workload has been consistently heavy with a substantial number of lawsuits involving conservation-interested organizations and individuals disputing Forest Service land management decisions on timber sales, recreation and industrial developments, wilderness preservation and the multiple use of lands and resources. A very large number of cases have involved alleged noncompliance with requirements of the National Environmental Policy Act of 1969.

Management of the national forests under principles of multiple use has produced marked increase in the litigation in several areas of land management. Recreation use of Forest Service lands has greatly increased in recent years, reflected by appeals and litigation as competing statutory uses conflict. For example, Texas Committee on Natural Resources v. Earl L. Butz, et al., (Texas) Timber; Multiple Use; Endangered Species, NEPA; Citizens Against Toxic Sprays, Inc. v. Earl L. Butz, et al., (Oregon); wildlife and vegetation.

Roadless areas and the Wilderness System, now including the new Eastern Wilderness, have raised problems in purity of management, access to private inholdings, mining and timber activities. Litigation involving mining on national forest land is another indication of the upward trend in this area. Increasingly valuable mineral deposits, subject to location and/or lease under new Forest Service mining regulations, on all national forest lands, including wilderness not specially withdrawn from mineral entry, have resulted in conflicts with multiple use objectives. For example, Andrew L. Freese v. U.S. (Idaho), Mining Access.

Land Acquisition Programs. The acquisition of land and related interests will escalate as a result of increased funding of land and water P.L. 94-422. There were an estimated 2,000 acquisition cases closed, representing a total of 100,000 acres with a value of around \$38,000,000. Titles to all land and interests in land acquired are now approved by the Office of the General Counsel under a delegation of authority from the Attorney General. Significant problems requiring legal assistance arose in the acquisition programs under the provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. 4601, et seq., and the Regulations of the Department implementing the Act. Acquisitions in specially designated areas such as National Recreation Areas has resulted in a notable increase in the number of tracts needed to be acquired by condemnation in Federal courts with added impact in the litigation area in both Washington and the field offices.

Environmental Matters. The level of legal services incident to environmental matters remains at a high level. The requirements of the National Environmental Policy Act of 1969, Federal Water Pollution Control Act Amendments of 1972, the National Historic Preservation Act of 1966, Historical and Archeological Data Act of 1974, Federal Insecticide, Fungicide and Rodenticide Act, and regulations issued pursuant to these statutes continues to impact on the various agency programs in the Department. We are rendering legal assistance to agencies on an individual basis and to the Environmental Coordinator in

the Secretary's office in the preparation of Departmental positions, to other agencies.

Soil Conservation Service Programs

Soil and Water Conservation District Programs. Legal assistance is provided in the review of new memoranda of understanding between soil and water conservation districts and the Soil Conservation Service. Changes in State and Federal laws have necessitated the preparation of new or amended memoranda of understanding in certain areas, in addition to the regular duties of interpreting and advising on the application of appropriate State and Federal statutes to program assistance for the approximately 3,000 soil and water conservation districts in the United States. Assistance is also given in drafting legislation to amend State soil and water conservation district enabling laws to clarify and expand the purposes for and powers of districts, such as sediment and erosion control authorities.

Watershed Protection and Flood Prevention Programs. In the planning phase of watershed projects for this past year, more than 110 watershed work plans and accompanying Environmental Impact Statements were reviewed for legal sufficiency. During the installations and operations phase of the watershed projects, additional legal questions have arisen from the implementation of the National Environmental Policy Act of 1969, the Uniform Relocation Assistance and Real Property Acquisition Act of 1970, the Federal Water Pollution Control Act Amendments of 1972 and the regulations promulgated thereunder, the National Historic Preservation Act of 1966 and associated regulations, the Historical and Archeological Data Act of 1974, the Endangered Species Act of 1973, 1976 Amendments to Land and Water Conservation Fund and the National Historic Preservation Act. Legal implications have arisen from these statutes regarding the administration of contracts, performance of work, and the relative responsibilities of the Soil Conservation Service. In addition to the programmatic and intergovernmental problems stemming from the implementation of these statutes, eight lawsuits are pending against Soil Conservation Service water resources activities, raising serious nationwide program questions.

Great Plains Conservation Program. Legal advice and assistance are required for this program, including the litigation arising from contracts between the Department of Agriculture and cooperating producers and the handling of claims against producers for refunds of cost-share payments or adjustments stemming from contract violations. Additional legal review is provided in the revision of the program handbook and regulations.

Resource Conservation and Development Program. Legal work included the interpretation and application of State laws in connection with the eligibility and legal powers of sponsors of RC&D projects, contract administration problems, interpretations of applicable Federal laws to determine the authority of the Secretary to plan and carry out such projects, review of field instructional material, review of SCS policy and operational instructions, and preparation for CFR codification of regulations governing the RC&D Program. As stated for the Watershed Protection and Flood Prevention Program, the implementation of certain recent statutes has resulted in a need to adjust the delivery of Federal assistance under the RC&D program to the statutes cited above.

Wellton-Mohawk Irrigation Improvement Program (WMP). Pursuant to Title I of the Colorado River Basin Salinity Control Act, Public Law 93-320, Sec. 101(f) (1), (k) and 196, the Bureau of Reclamation of the Department of the Interior and the Soil Conservation Service are engaged in a cooperative program of on-farm technical and cost-sharing assistance for the installation of on-farm irrigation improvement measures. The WMP is a prototype program and, as such, presents several novel legal issues. SCS's role of providing technical and financial assistance carries legal implications in the areas of cooperation agreements, cost sharing contracts, land rights determinations, and interstate stream flowage rights, as well as the legal questions inherent to any

new and unique program.

Water Resource Responsibility of the Secretary. Legal advice was furnished on a continuing basis to representatives of the Secretary on problems of the Water Resources Council. Legal assistance was furnished in connection with approximately 75 water rights adjudications affecting this Department. Advice was furnished in connection with the new principles and standards for use by the agencies carrying out water resource projects, and on the Department of Justice's proposal for quantification of all Federal water rights.

LEGISLATION, LITIGATION, RESEARCH AND OPERATIONS

Legislation. This office provides legislative and related legal services for the entire Department through analysis, interpretation, preparation and review of proposed legislation, coordination of the review of proposed testimony of Departmental witnesses before Congressional Committees, and review for legal sufficiency of all Department legislative reports on bills pending before the Congress and on proposals of other executive agencies. In calendar year 1976 this office reviewed and cleared approximately 570 legislative reports on pending bills and proposals, and participated in the preparation and clearance of testimony for 100 hearings before Congressional Committees.

The Office of the General Counsel prepares and assists in the preparation of drafts of legislative proposals on request for members of Congress, Congressional Committees, and agencies within the Department and provides technical assistance to Congressional Committees on legislation. Substantial legal assistance was rendered in connection with legislation relating to the grain inspection system, Food Stamp Program, national forest management, Packers and Stockyards Act, and agricultural research.

The office assisted in reviewing Departmental programs and proposals in connection with the development of the Department's legislative program. Considerable time was also spent in analyzing and commenting on various amendments to the Administrative Procedure Act.

Appellate Litigation. The Litigation Division of the Office of the General Counsel is responsible for the Department's recommendations and position regarding appellate cases. The Division serves as the focal point for the Department and principal point of contact with the Department of Justice in connection with all appellate matters. The programs and activities of the Department generated a large volume of litigated cases. On the average, over one hundred cases each year are decided adversely to the Department by trial courts around the country. The Office of the General Counsel prepares a thorough written legal analysis and appeal recommendation to the Solicitor General with respect to each case. In addition the Office provides extensive assistance to Justice Department attorneys defending the administrative decisions of the Secretary before the United States Courts of Appeals and the Supreme Court. The Department of Justice occasionally requests attorneys from this Office to brief and argue such cases, and some other appellate cases are handled by the Office pursuant to statutory authority. More than seventy appellate cases are usually pending at any given time and the Office must keep on top of and regularly prepare reports on the status of each. Attorneys in the Office brief and argue or coordinate preparation of the brief and presentation of argument in appellate cases assigned by the Department of Justice for handling by this Department.

Environmental Protection Programs. The Office of the General Counsel devotes substantial attorney time to cases relating to pesticides, particularly in connection with participation in proceedings instituted under the Federal

Insecticide, Fungicide, and Rodenticide Act. During 1976, the Office represented the Secretary in administrative proceedings before the Environmental Protection Agency relating to the notices of cancellation of the registration of chlordane, heptachlor, and mirex, and the suspension action on chlordane and heptachlor before EPA and in the U.S. Court of Appeals for the District of Columbia Circuit. These proceedings involved masses of scientific evidence, requiring many expert witnesses to establish the relevant facts. The issues in the cases were complex and the proceedings were protracted. The Office filed numerous detailed briefs and documents in the administrative proceedings and comprehensive briefs in the Court of Appeals.

In related matters this Office devoted a significant amount of time in connection with legal advice and assistance with respect to the use and registrations of all pesticides. Advice was also furnished regarding the Secretary's expanded responsibilities under amendments to the Federal Insecticide, Fungicide, and Rodenticide Act which provide for the Department's analysis of the impact on the Nation's agricultural production of proposed cancellations of pesticide registrations.

Contracts and Agreements. This Office continued to provide the necessary legal advice to the handling of problems arising in all phases of the Department's procurement process. Such included the drafting and review, as necessary, of regulations, proposed solicitations, contracts and other procurement related documents. In addition, advice was rendered on such preaward matters as bid protests and determinations were made in 36 cases involving alleged mistakes in bid. Advice was furnished to this Department's Contracting Officers in connection with performance problems as they arose and counsel was furnished to defend numerous appeals which were taken by contractors to the Department's Board of Contract Appeals. Several lawsuits were filed during the fiscal year growing out of procurement contracts.

In related matters this Office provided legal advice and assistance in regard to the preparation and execution of cooperative agreements, memoranda of understanding, grants, leases, and permits for the use of property. Advice was also given in regard to the commercial licensing of the name and symbol "Smokey Bear" and "Woodsy Owl".

Departmental Administration. Questions were answered relating to Federal personnel laws and regulations. Legal advice was given in connection with the transition to the new fiscal year and the Congressional Budget and Impoundment Control Act of 1974. All Office of Investigation reports involving personnel irregularities were reviewed and, where the facts indicated a violation of criminal statute, referred to the Department of Justice for consideration of criminal action. Considerable time was spent in giving advice and handling labor-management matters under Executive Order 11491. Attorneys represented the Department at discrimination and adverse action appeals. In addition a significant amount of time was spent in connection with garnishment of employees' salaries pursuant to Section 459 of the Social Security Act.

Considerable time was spent in connection with matters arising under the Federal Advisory Committee Act, the Freedom of Information Act, and the Privacy Act. Advice was given on approximately 60 appeals to the heads of agencies from initial denials of requests for records under the Freedom of Information Act, and on numerous matters relating to implementation of the Privacy Act. Two cases were filed naming the Department as defendant under the Freedom of Information Act and one under the Privacy Act. Two of these are still pending in district courts, and the third is on appeal to the First Circuit Court of Appeals.

Legal assistance was provided in connection with Title VI and Title VII of the Civil Rights Act of 1964, other legislation such as the Equal Employment Opportunity Act of 1972, Executive Orders relating to civil rights and other civil rights matters. Attorneys acted as agency counsel in seven

administrative proceedings under Title VI and in six personnel actions where discrimination was charged. Three cases involving Texas, Mississippi, and North Carolina Cooperative Extension Services continued in litigation this fiscal year. Approximately thirty cases in litigation having "Civil Rights" implications involved the Department's personnel policy, administration of grant programs, and enforcement of Executive Order 11246.

Farmer Cooperatives. The Office gave advice to the Farmer Cooperative Service on questions relating to interpretation and application of the Capper-Volstead Act (7 U.S.C. 292), and antitrust laws and their relationship to farmer cooperatives; reviewed standard clauses for use in charters and by-laws of cooperatives; and assisted in the revision of Farmer Cooperative Bulletins. It provided legal services to a special subcommittee of the Capper-Volstead Committee, which is investigating charges of undue price enhancement by dairy cooperatives.

Patents. During fiscal year 1976, 195 new cases were submitted from the field, 169 of which were filed as patent applications; nine were returned to the field for modification; two were returned as unpatentable; seven were published in lieu of patenting; five received Commercial Rights determinations; and, at the end of the year, three were pending more information from inventors. Eight unfiled cases from prior fiscal years were dropped, and, at the end of the year, three others were awaiting more information; 196 patent applications terminated as patents, and 57 terminated as abandonments. There were 184 pending applications at the end of the year, 35 of which were filed in prior fiscal years. One interference was terminated, and two new interferences were declared.

A patent infringement case was terminated before the U.S. Court of Claims. Three others were still pending at the end of the year, two of which commenced during the year. Two employee's patent rights cases were pending at the end of the year, before the District Court, one of which commenced during the year.

Torts and Other Claims. This Office in the fiscal year determined, settled, and adjudicated a large number of claims filed with the Department by claimants under the Federal Tort Act and other claim statutes. During the year, 385 new claims were received under the Act by the Washington Office, and 293 claims were received by our field offices. Each claim requires that the facts be analyzed, legal research be made concerning applicable law, and a determination be made as to damages and liability.

Eighty-seven suits were filed against the United States in the year on disallowed claims. Approximately 80 lawsuits are still pending against the Department involving claims amounting to many millions in damages.

Under the Federal Claims Collection Act, the agencies of the Department are provided counsel on what claims should be terminated or compromised. A number of claims were referred to the Department of Justice for collection where collection could not be administratively accomplished. The Office also provided assistance to agencies on filing proofs of claims in bankruptcy cases.

A number of lawsuits were filed against employees of the Department arising out of their employment and this Office provided assistance to such employees in obtaining legal representation by the Attorney General. The number and complexity of such suits increased substantially in this fiscal year.

This a geographic breakdown of obligations and man-years:

Location	1976 Actual		1977 Estimate		1978 Estimate	
	Obligations	Man Years	Obligations	Man Years	Obligations	Man Years
Alaska	42,116	1	- -	- -	- -	- -
Arkansas	208,688	9	229,125	9	235,275	9
California	361,267	15	394,095	15	404,673	15
Colorado	316,618	13	339,105	14	348,207	14
District of Columbia	4,792,651	190	5,251,545	197	5,442,503	199
Georgia	576,943	28	623,220	32	639,948	32
Illinois	298,166	13	320,775	13	329,385	13
Kansas	312,397	13	339,105	13	348,207	13
Montana	115,348	5	128,310	6	131,754	6
New Mexico	115,782	5	128,310	5	131,754	5
Oklahoma	113,304	4	119,145	4	122,343	4
Oregon	250,930	10	302,445	10	310,563	10
Pennsylvania	284,555	13	311,610	14	319,974	14
Texas	242,004	10	265,785	11	272,919	11
Utah	89,616	3	100,815	3	103,521	3
Wisconsin	151,479	6	164,970	8	169,398	8
Puerto Rico	134,163	5	146,640	6	150,576	6
TOTALS	<u>8,406,027</u>	<u>343</u>	<u>9,165,000</u>	<u>360</u>	<u>9,461,000</u>	<u>362</u>

AGRICULTURAL RESEARCH SERVICE

Purpose Statement

The Agricultural Research Service (ARS) was established on November 2, 1953, pursuant to authority vested in the Secretary of Agriculture by 5 U.S.C. 301 and Reorganization Plan No. 2 of 1953, and other authorities.

The Agency is responsible for conducting basic, applied, and developmental research of:

- Animal production
- Plant production
- Use and improvement of soil, water, and air
- Processing, storage, distribution, nutrition and food safety, and consumer services

The research applies to a wide range of goals; commodities; natural resources; fields of science; and geographic, climatic, and environmental conditions. It is categorized into 67 ARS National Research Programs and eight Special Research Programs.

The mission of ARS research is to develop new knowledge and technology which will insure an abundance of high quality agricultural commodities and products at reasonable prices to meet the increasing needs of an expanding economy and to provide for the continued improvement in the standard of living of all Americans. This mission focuses on the development of technical information and technical products which bear directly on the needs to (1) manage and use the Nation's soil, water, air, and climate resources and improve the Nation's environment; (2) provide an adequate supply of agricultural products by practices that will maintain a permanent and effective agriculture; (3) improve the nutrition and well-being of the American people; (4) improve living and rural America; (5) strengthen the Nation's balance of payments; and (6) promote world peace.

Under the authority of Section 104(b)(1) and (3) of Public Law 480, the Agricultural Trade Development and Assistance Act of 1954, as amended, ARS directs foreign research mutually beneficial to the United States and the host country which can be advantageously conducted in foreign countries.

The Agency's research is conducted at numerous field locations in the States, District of Columbia, Puerto Rico, the Virgin Islands, and in several foreign countries. Much of the work is conducted in direct cooperation with the State agricultural experiment stations, other State and Federal agencies, and private organizations.

Central offices for the Administrator of ARS and his staff, which are in the Washington, D. C. Metropolitan Area, provide overall leadership and direction to the programs and activities assigned to the Agricultural Research Service. The field activities are managed on a geographical basis through four Regional Offices, 20 Area Offices and seven major Research Centers.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

Item	Actual 1976		Estimated 1977		Estimated 1978	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Agricultural Research:						
Service:		a/		a/		
Regular appropriation:	\$281,839,000	9,060	\$280,589,000	9,474	\$319,719,000	9,484
Scientific activities:						
overseas (Special						
Foreign Currency						
Program)	7,500,000	15	7,500,000	15	7,500,000	15
Total	289,339,000	9,075	288,089,000	9,489	327,219,000	9,499
Deduct allotments to:						
other agencies	-827,912	-15	-1,757,000	-15	-1,926,000	-25
Net	288,511,088	9,060	286,332,000	9,474	325,293,000	9,474
<u>Obligations under</u>						
<u>other USDA appropri-</u>						
<u>ations:</u>						
Animal and Plant						
Health Inspection						
Service--emergency						
programs and field						
station services ...	3,905,518	115	3,981,947	120	3,981,947	120
Food and Nutrition						
Service--improved						
dietary nutrition ..	296,005	17	348,898	17	348,898	17
National Agricul-						
tural Library--						
various services ...	303,467	- -	348,293	- -	348,293	- -
Soil Conservation						
Service--field						
station services ...	235,109	2	196,129	2	196,129	2
Economic Research						
Service--including						
P.A.S.A. and						
training of foreign:						
nationals	825,660	29	3,032,446	60	3,032,446	60
Agricultural Market-						
ing Service--field						
station services ...	129,399	- -	111,199	- -	111,199	- -
Coordinated Depart-						
mental Services ...	152,186	6	137,369	6	137,369	6
Miscellaneous						
reimbursements	7,582	- -	34,325	2	34,325	2
Total Other USDA						
Appropriations ...	5,854,926	169	8,190,606	207	8,190,606	207
Total, Agricultural						
Appropriation	294,366,014	9,229	294,522,606	9,681	333,483,606	9,681
<u>Other Federal Funds</u> ..	7,379,175	116	9,378,427	115	9,378,427	115
<u>Non-Federal Funds</u> ...	1,503,766	35	1,230,967	34	1,230,967	34
Total, Agricultural						
Research Service ...	\$303,248,935	9,380	\$305,132,000	9,830	\$344,093,000	9,830

	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
End-of-Year Employment:			
Permanent full-time	8,383	8,403	8,423
Other	1,436	1,350	1,350
Total included in ceilings	9,819	9,753	9,773
Number of disadvantaged youth	456	600	600
TOTAL	10,275	10,353	10,373

a/ Excludes \$1,000,000 reappropriation.

(a) Agricultural Research Service

Appropriation Act, 1977	\$270,576,000 a/
Budget Estimates, 1978	<u>319,719,000</u>
Increase in appropriation	<u>+49,143,000</u>

Adjustments in 1977:

Appropriation Act, 1977	\$270,576,000	
Supplemental Appropriations:		
Pay Costs	+10,013,000	
Adjusted base for 1978		280,589,000
Budget Estimate, 1978		<u>319,719,000</u>
Increase over adjusted 1977		<u>\$+39,130,000</u>

a/ Excludes reappropriation of \$1,000,000 of prior year funds for additional labor, subprofessional and junior scientific help in the field.

SUMMARY OF INCREASES AND DECREASES
(on basis of adjusted appropriation)

	<u>1977</u>	<u>Increase or Decrease</u>	<u>1978 Estimate</u>
<u>Program Changes:</u>			
Providing for food needs in the third century	\$ 9,418,000	\$+5,250,000(1)	\$ 14,668,000
Competitive Grant Research Fund	- -	+27,600,000(2)	27,600,000
Repair and Maintenance	3,312,000	+3,904,000(3)	7,216,000
Pesticide Impact Assessment Program	- - a/	+1,020,000(4)	-1,020,000
Annualization of pay increases effective FY 1977	10,013,000	+1,012,000(5)	11,025,000
GSA Space Rental	1,758,000	+258,000(6)	2,016,000
USDA Working Capital Fund Services	(4,515,000)	+536,000(7)	536,000
All Other	<u>255,638,000</u>	- -	<u>255,638,000</u>
Total, Program Changes	\$280,139,000	\$+39,580,000	\$319,719,000
<u>Facility Changes:</u>			
Elimination of non-recurring facility items	<u>450,000</u>	<u>-450,000(8)</u>	- -
TOTAL AVAILABLE	<u>\$280,589,000</u>	<u>\$+39,130,000</u>	<u>\$319,719,000</u>

a/ Excludes proposed supplemental of \$1,020,000.

PROJECT STATEMENT
(on basis of adjusted appropriation)

	1976	1977 (Estimated)	Increase or Decrease	1978 (Estimated)
1. <u>Research on animal</u>				
<u>production:</u>				
(a) Animal production				
efficiency research	\$ 48,638,068	\$ 56,246,000	\$ +1,180,000	\$ 57,426,000
(b) Research on housing	377,017	368,000	+13,000	381,000
Total, Research on animal				
production	49,015,085	56,614,000	+1,193,000	57,807,000
2. <u>Research on plant</u>				
<u>production:</u>				
(a) Crop production				
efficiency research	90,041,144	105,496,000	+7,665,000	113,161,000
(b) Tropical and subtropical:				
agricultural research ..	508,533	679,000	+11,000	690,000
Total, Research on plant				
production	90,549,677	106,175,000	+7,676,000	113,851,000
3. <u>Research on the use and</u>				
<u>improvement of soil,</u>				
<u>water, and air:</u>				
(a) Research on conservation:				
and use of land and				
water resources and				
maintaining environ-				
mental quality	21,670,876	24,892,000	+1,389,000	26,281,000
(b) Research on watershed				
development	8,324,400	10,123,000	+230,000	10,353,000
Total, Research on the use				
and improvement of soil,				
water & air	29,995,276	35,015,000	+1,619,000	36,634,000
4. <u>Processing, storage, dis-</u>				
<u>tribution, nutrition and</u>				
<u>food safety, and consumer</u>				
<u>services research:</u>				
(a) Processing, storage and				
distribution efficiency:				
research	50,343,957	53,249,000	+565,000	53,814,000
(b) Research to expand agri-				
cultural exports	2,114,232	2,254,000	+51,000	2,305,000
(c) Food & nutrition				
research	9,179,039	13,969,000	+409,000	14,378,000
(d) Research to improve				
human health and safety:	11,125,047	12,127,000	+447,000	12,574,000
(e) Research on consumer				
services	473,730	593,000	+20,000	613,000
Total, Processing, storage				
and distribution, nutrition				
and food safety, and con-				
sumer services research	73,236,005	82,192,000	+1,492,000	83,684,000
5. <u>Competitive grant research:</u>				
<u>fund</u>	- -	- -	+27,600,000	27,600,000
6. <u>Support services for other:</u>				
<u>USDA Agencies</u>	135,000	143,000	- -	143,000
7. <u>Construction of facilities:</u>	29,930,000	450,000	-450,000	- -
8. <u>Contingency research fund</u>	a/	1,000,000	- -	1,000,000
Unobligated balance	9,977,957	- -	- -	- -
Subtotal	282,839,000	281,589,000	+39,130,000	320,719,000
Deduct reappropriation for:				
Special Fund	-1,000,000	-1,000,000	- -	-1,000,000
Total, Available or estimate :	281,839,000	280,589,000	+39,130,000	319,719,000

	:	1976	:	1977	:	Increase or:	1978
	:		:	(Estimated)	:	Decrease	(Estimated)
Supplementals for:	:		:		:		
Pay Costs	:	- -	:	-10,013,000	:		
Total, Appropriation	:	281,839,000	:	270,576,000	:		

a/ Obligations amounting to \$922,980 of the \$1,000,000 appropriated in 1976 are included in the projects above.

b/ Excludes proposed supplemental of \$1,020,000 for Pesticide Impact Assessment Program.

EXPLANATION OF PROGRAM

Under the Agriculture and Related Agencies Appropriation Act of 1977, the Agricultural Research Service carries out the following activities:

1. Research on animal production.--Research is conducted to improve livestock productivity (including poultry) through improved breeding, feeding, and management practices and to develop methods for controlling diseases, parasites, and insect pests affecting them. Research is also conducted on improved rural housing.
2. Research on plant production.--Research is conducted to improve plant productivity through improved varieties of food, feed, fiber, and other plants; develop new crop resources; and improve crop production practices, including methods to control plant diseases, nematodes, insects, and weeds.
3. Research on the use and improvement of soil, air, and water.--Research is conducted to improve the management of natural resources, including investigations to improve soil and water management, irrigation and conservation practices; to protect natural resources from harmful effects of soil, water, and air pollutants and to minimize certain agricultural pollution problems, and to determine the relation of soil types and water to plant, animal, and human nutrition. The research includes studies on hydrologic problems of agricultural watersheds. Research is also conducted on the application of remote sensing techniques in meeting agricultural problems and on effects of the reduction of ozone.
4. Processing, storage, distribution, nutrition and food safety and consumer services research.--Research is conducted to develop new and improved foods, feeds, fabrics and industrial products and processes for agricultural commodities for domestic and foreign markets, including ways to minimize processing wastes. Research is conducted on the processing, transportation, storage, wholesaling and retailing of products; on human nutritional requirements; and the composition and nutritive value of food as needed by consumers and by Federal, State and local agencies administering food and nutrition programs.

Research is conducted on problems of human health and safety, including means to insure the safety of food and feed supplies; control insect pests of man and his belongings; reduce the hazards to human life resulting from pesticide residues, tobacco, and other causes, and on consumer services.

5. Competitive grant research fund.--These funds will support competitive research grants to complement the efforts of USDA agencies, universities, and private research organizations. The objectives of this program are to emphasize basic research critical to food production and to obtain the participation of outstanding researchers in the entire U.S. scientific community.

The research performed by the Agricultural Research Service is authorized by the Department of Agriculture Organic Act of 1862 (5 U.S.C. 511) and the Research and Marketing Act of 1946, as amended (7 U.S.C. 427, 4271).

JUSTIFICATION OF INCREASES AND DECREASES

This budget proposed by the Agricultural Research Service for FY 1978 represents a net increase of \$39.1 million. This includes an increase of \$27.6 million for a Competitive Grant Research Program in FY 1978; \$6.3 million for strengthening basic research efforts, and \$5.2 million to meet other program requirements. This request responds to high priority problems facing the U.S. and world agriculture. It is consistent with Department policy, missions and goals; priorities identified by numerous study and advisory groups; short and long-range needs of action and regulatory agencies; and capabilities, missions and priorities of the Agency's programs judged to be cost-effective. The budget request follows the comprehensive review and evaluation of the Agency's base programs.

U.S. food policy and the role of agricultural science and technology in that policy has been elevated to a major national concern. This concern has been expressed through the International Food Conference in Rome, the Kansas City Food Conference, Congressional Oversight Hearings, the BARR and Interim Reports of the National Academy of Science, and countless scientific newspaper articles published over the past several years. The budget request is being made with an awareness that, as America looks ahead to its third century, an ever-expanding, interdependent world population will look to America for more food, more fiber, and more agricultural technology.

Expanding world food requirements and changing agricultural policies are placing added pressures on the U.S. agricultural research capacity which has been on a resource plateau for well over 10 years. Past research funding levels stand challenged as insufficient to sustain an aggressive export-oriented agriculture, to supply the incessant food demands of a world population that will nearly double in 25 years.

The budget request builds on a consensus of views on agricultural research needs. It is consistent with needs identified at the Kansas City Working Conference on Research to Meet U.S. and World Food Needs and followup study by the Ad Hoc Work Group on Most Important Problems and the NAS/NRC/BARR Report on Enhancement of food Production for the United States.

The budget request is based on the assumption that reserve technology and new knowledge once in generous supply in agriculture are virtually exhausted. Also, the Agency has been seriously challenged by spiraling inflationary costs, a declining constant dollar budget, and a long-term trend of increased cost of conducting more sophisticated research.

The budget was built on the priority research needs identified through the public debate mentioned above, a review of base programs and redirection of research followed by the seeking of research proposals from ARS scientists to meet these priority needs. The research proposals were evaluated by panels of scientists, staff specialists and top managers according to proven criteria and a tested scoring model. The budget request was coordinated with action and regulatory agencies in the Department and with CSRS and ERS. It is supported by the Agency's new Management and Planning System (MAPS) used for the first time in planning for FY 1978. This system of National Research Programs containing technological objectives, program costs, and potential benefits and supported by a system of National Program Coordinators, Technical Advisors, and Analysts provides a new and developing framework for program, policy and budget analysis.

The priority increases are discussed in the following program packages. Following the narrative on the packages, a crosswalk table is presented which links the packages to the budget projects.

- (1) An increase of \$5,250,000 for providing for food needs in the third century.
(\$9,418,000 available in 1977)

The proposed increase will be distributed by program as follows:

- (a) An increase of \$50,000 for animal production efficiency research.
- (b) An increase of \$4,875,000 for crop production efficiency research.
- (c) An increase of \$325,000 for research on the use and improvement of soil, water, and air.

Objective: The primary objective of this proposal is to expand our base of fundamental knowledge sufficiently to assure a productive agriculture for the future. We must have the capability of meeting the future needs for food, fiber, and other renewable resources derived from agriculture.

Specifically, the subobjectives are to improve agricultural production capabilities by: (1) Improvement of crop production efficiency through fundamental knowledge of photosynthesis and nitrogen fixation and expanded use of cell and tissue culture technology for accelerating the modification of germplasm resources, (2) Improvement of the nutritional and other quality attributes of high-yielding food crops while maintaining yield potentials, (3) Improvement of the adaptability, productivity, and quality characteristics of forages; and development of improved forage and grazing management technology to promote increased livestock production, (4) Development of improved systems for pest control through growth regulation, innovative control technology, and expanded knowledge of pest organisms and chemical control agents, and (5) Expansion and improvement of the germplasm pools for crops.

Need for Increase: Use of sophisticated equipment, new technology, and enhanced needs since World War II have exploited nearly all of the fundamental knowledge on photosynthesis, nitrogen fixation, and cell culture that had accumulated during the previous two centuries. New findings have been assimilated so rapidly after they are generated that our "storehouse" of basic knowledge in these areas is essentially exhausted. A core of concerted research effort must be established to seek answers to unsolved basic problems on a timely basis if we are to compensate for our ever diminishing natural resources and satisfy the agricultural needs of our expanding population in the future.

Photosynthesis, Nitrogen Fixation, and Tissue and Cell Culture--At the present time, there is a critical need to understand more thoroughly the basic mechanisms of photosynthesis and nitrogen relations in all major crop species. Varietal differences in efficiency have been demonstrated but not explored. Tissue and cell culture technology has been successfully applied to only a few species. Potentials exist for increasing the photosynthetic efficiency of corn, sorghum, and sugarcane through breeding and varietal development. On the other hand, efficiency of most other crops may be amenable to genetic engineering of rate limiting mechanisms and control of photorespiration, as well as breeding and selection. Both short-term and long-term approaches have been outlined to capitalize on current knowledge of rhizobium-legume nitrogen-fixing associations and to improve these and other nitrogen-fixing processes. This proposal addresses nearly all of the researchable approaches outlined by a recent grant panel of the National Science Foundation for the areas of photosynthesis, nitrogen-fixation, and the technology for growing cells in test tubes or other artificial environment.

It should be possible to increase the photosynthetic efficiency of our less productive crops by as much as 30 percent. For wheat, such an increase would result in additional quantities to provide the food needs for wheat of nearly twice our present population without diminishing quantities for export. Similarly, the fixation of 20 pounds of nitrogen per acre in corn and wheat lands alone (116 million acres) would be the equivalent of some 1.2 million tons of nitrogen fertilizer and would save the equivalent of 8.1 million barrels of oil annually.

Improvement of Nutritional and Other Quality Attributes--High-yielding cereals and legume crops in many instances fail to meet quality and nutritional needs of consumers. These lower-priced, more abundant foods are often deficient in one or more essential amino acids, vitamins, or minerals, or in total content of protein.

Total nutritional requirements are met either through excess caloric intake and luxury consumption of some food constituents or in more costly dietary supplements and expensive food sources for variety. There is a need to improve quality attributes of a number of crops either to provide better balance in composition or increased quantity of desired constituents for specific end-use requirements. At the same time, it is imperative that yield potentials be maintained or improved.

A 5 percent gain in value of corn due to improved quality (both protein content and amino acid balance) would return a potential benefit of \$125 million annually, based on the 1 billion bushels for food and industrial uses. Similar gains in all feed grains would nearly eliminate the necessity for high protein supplements in animal feed rations.

Improvement of Forages and Grazing for Livestock--Long-range research plans were implemented by ARS in fiscal years 1976 and 1977 to improve livestock production capabilities of land resources not suited for other agricultural uses. These include over 900 million acres of marginal lands used for pastures and western grazing lands on open range and forested areas. Much of the current vegetation of these lands has little or no forage value, but could be made productive through revegetation with adapted forage species and development of effective management practices. The varied requirements of the major range ecosystems demand a multidisciplinary research effort on each ecosystem for effective progress.

If forage quality could be increased to provide the bulk of animal nutritional needs, the sparing action on feed grains and protein-rich feed supplements for export purposes would be of tremendous importance. The long-term nature of this research makes it imperative that we augment current effort if significant effects are to be achieved even in the next 10 years. In addition, forage legumes, especially alfalfa, are thoroughly entrenched as important cash crops in the rotational cropping systems of most agricultural sections of the country. Their capacity to restore and conserve soil fertility is unexcelled. As hay and forages for grazing, they provide an important source of roughage in livestock feeding.

Carrying capacities on limited acreages of western grazing lands have been increased over 7-fold. At the present time, there are 71.5 million cattle on farms and ranches in the 19 Western and Great Plains states. If the vegetation of most of our western rangelands could be increased by just 3-fold, it would support more than twice the number of cattle needed for the entire nation. Improvement of forage quality would also greatly reduce the necessity for supplemental feeds.

New Pest Control Technology--Despite the sophisticated pest control technologies of today, pests continue to reduce the potential yield of our agricultural commodities by about one-third. Minimizing losses in agricultural commodities from only the more damaging insects, diseases, weeds, and nematodes annually costs billions of dollars and requires a wide variety of strategies, tactics, and tools. Every 3 years, a new insect pest appears in the U.S. Each 3 to 5 years, a crop variety that is resistant to common forms of an insect or pathogen becomes susceptible to a new biotype of the pest.

Unless the rapidly dwindling technical pool of knowledge of pests is dramatically increased, we will encounter more and more failures to control pests and will even experience difficulty in maintaining the present degree of control. The existing pool of scientific knowledge has enabled researchers to meet many different pest control challenges. However, there have been instances where alternative control methods were not available because fundamental knowledge was lacking or inadequate, such as fire ant control, gypsy moth control, and insecticide resistance. Efforts to rapidly develop new or improved pest control methods in the future will become more difficult and require more resources and time.

Increased knowledge of the more damaging pests will contribute significantly toward developing control measures that will minimize pest losses and reduce the costs of their control.

Germplasm Resources--Our major food, feed, and fiber crops are all genetically vulnerable to pests and environmental hazards. This is due in part to the narrow genetic base from which our highly productive modern varieties are structured. We must bring into the crop breeding system more genetic variability, learn to manipulate it through various breeding techniques in fashioning crop varieties that are less vulnerable to production hazards, and must provide safe maintenance for this basic genetic material upon which our crop agriculture depends.

Without adequate germplasm resources from which we can select breeding lines that are resistant to or tolerant of major stress factors, much of our \$52 billion annual farmgate value of crops would progressively deteriorate. Continued expansion and effective maintenance and manipulation of these resources is imperative for crop improvement and the perpetuation of our agricultural system.

Plan of Work: The plan of work in each of the subcategories is as follows:

1. Crop Efficiency.

a. Photosynthesis--Clarify physiological and genetic bases for cultivar differences in yield, and expand studies on the spectrum of physiological and biochemical mechanisms of photosynthesis (bioenergetics, translocation, stress limitations, energy conversion, pigment reactions, and respiratory interactions) at interdisciplinary centers of excellence (located at Peoria, IL and Raleigh, NC).

b. Nitrogen Fixation--Improve symbiotic associations (beneficial relationships between different organisms living together) between selected legume and non-legume species and nitrogen-fixing bacteria; quantify the rates and magnitude of nitrogen fixation under field conditions; and determine optimum environmental conditions, bioenergetics, and triggering mechanisms involved in nitrogen fixation. This work will be conducted as appropriate at locations in Maryland, California, Mississippi, Minnesota, Illinois, Colorado, and Alabama.

c. Tissue and Cell Culture--Techniques of growing in a test tube or other artificial environment will be used to accelerate improvements in corn resistance to the southern leaf blight organisms and carrot sensitivity to a phytotoxin at Madison, Wisconsin.

2. Nutritional and Other Quality Improvements--Develop improved methods for determining protein and nutritive value of major food and feed grains at Manhattan, Kansas, and cooperate with breeders and other scientists in improving these attributes in varietal development.

3. Forages and Grazing for Livestock--(a) Augment current research to improve yield and quality of selected forage species adapted to major forage-production areas of Oklahoma, Missouri, and Minnesota; (b) improve forage grass and legume seed production at Washington, Oregon, Utah, and Oklahoma; (c) expand research on the rapid determination of forage quality at Pennsylvania; (d) initiate research on weed control in pastures and forage crops of the Southern Region and expand research on biological and other methods for control of Mormon cricket and other insects in the Western and Northeastern Regions; (e) improve soil and water conservation practices for grazing lands in the Southeast; and (f) expand multidisciplinary research to develop and improve systems adapted for forage handling and animal management on Northeastern and Southern grazing lands and rangeland ecological communities of Wyoming and Montana.

4. Pest Control Technology--Expand research to develop new knowledge of the role of insect migration in causing outbreaks (Phoenix, Arizona; Stoneville, Mississippi); the chemistry of host plant resistance to attack by insects, nematodes, and other pathogens (Albany, California); the insect pathogens for control of major

insect pests with minimum pollution of the environment (Brownsville, Texas); the fate of fungicides in plants and animals (Fargo, North Dakota); the regulation of insect hormone systems (Beltsville, Maryland; Gainesville, Florida); and the use of behavioral chemicals to increase effectiveness of beneficial insects (Tifton, Georgia).

5. Expansion and Preservation of Germplasm Resources--(a) Establish a network of fruit and nut germplasm storage places as part of a joint State-Federal planning effort; (b) expand germplasm collections of selected crops; (c) evaluate these collections as sources of resistance to insects and diseases; (d) develop more efficient methods of combining multiple pest resistance in high-yielding adapted varieties; (e) maintain germplasm collections safely and efficiently as an essential resource; and (f) conduct on-site assessment of damage caused by non-resident (foreign) pathogens that constitute a potential threat to crops grown in the U.S. Research will be conducted at locations appropriate for selected crop species in Florida, Georgia, Maryland, Oregon, Pennsylvania, Kentucky, Washington, Missouri, Puerto Rico, and at regional plant introductory stations.

Redirections Made Last Year: In addition to continual redirected research emphasis within individual research projects to meet new challenges, the following significant shifts were made in base funds to strengthen as much as possible high priority areas for which increases are requested.

Research on technologies for feed use of forage crops were reduced and funds redirected to research on chemical regulation of photosynthetic processes in whole leaves of higher plants at Albany, California (\$45,000, 1.0 SY).

Research on industrial uses of minor oilseeds was terminated and part of the funds (\$16,000, 0.2 SY) was redirected to research on the chemistry of host plant resistance to insects, nematodes, and pathogen attack at Albany, California (remainder of funds redirected to research on nutrient analysis).

At the Beltsville Agricultural Research Center (BARC), 1 SY and \$50,000 was shifted from research on air pollution and plant tolerance to research on legume root-environment interactions. Specifically, the effect of root pathogens, pesticides, plant residues, soil and air pollutants, and nutrients on infection of rhizobium, nodulation, and nitrogen balance in leguminous species.

The need for greater emphasis on basic research in the area of nitrogen fixation prompted the redirection of 2.4 SY and \$80,000 at the Southern Regional Research Center from cotton finishing research to the study of nitrogen fixation in the absence of life with emphasis on the role of oxygen in oxidation-reduction reactions.

At Gainesville, Florida, 1 SY and \$43,000 formerly devoted to genotype-environmental stress studies of tropical grasses were redirected to cooperative studies with state scientists to determine if symbiotic relationships can develop between nitrogen fixing bacteria and roots of tropical grasses.

At Brownsville, Texas, \$190,000 was shifted from control of cotton and tobacco insects to research on Bacillus thuringiensis as a biological control agent for Heliothis.

At New Orleans, Louisiana, \$37,000 was shifted from research on peanut products and cotton textiles to research on Bacillus thuringiensis to supplement the Brownsville, Texas, research on microbiological control of Heliothis.

At Athens, Georgia, \$50,000 was shifted from research in support of industrial processing and cotton and tobacco health hazards to initiate research on photosynthesis with 1 SY transferred from Stoneville, Mississippi.

(2) An increase of \$27,600,000 for a competitive Grant Research Fund.

Objective: Provide special emphasis on basic research areas critical to food production and to obtain the participation of those researchers throughout the entire U.S. scientific community who have outstanding expertise in these areas. The areas selected for support under this program are ones which possess exceptional opportunity for discovery of knowledge vital to the basic understanding of important biological processes and which can contribute to applied research on problems having great impact on food production.

Competitive grants are to complement the ongoing efforts of the USDA agencies, universities, and private organizations in order to sharpen focus and accelerate progress. Current base and inhouse programs must be continued and strengthened to assure core leadership of nationwide planning and program implementation and to assure continuity and relevance of competitive grant programs to other research missions.

Need for Increase: This is a Federal-State effort. The program proposed is in accordance with the Agricultural Research Policy Advisory Committee recommendations in U.S. food research. The program will strengthen the leadership role of the USDA-State Agricultural Experiment Station system in providing mission-oriented basic research on food. At the same time, it opens that system by providing support to other researchers. Also, the proposed program brings the USDA role in supporting research more into balance with National Science Foundation than has been true in the past. This program is to be assigned to ARS Budget for one year only, allowing opportunity for feasibility study on future assignment to CSRS with legislation if warranted. The four target areas selected for initial support possess great opportunity for fundamental scientific discoveries and contributions. Large work groups of scientists developed the research needs for these areas, including the 1975 Michigan Kettering Crop Productivity Research Imperative Conference. The mission-oriented basic research needs are described briefly below.

Photosynthesis--Since 95 percent of the dry weight of plants is a result of photosynthesis, studies on this process have high priority in efforts to improve crop productivity. Studies are needed to determine the fundamental biology involved in increasing net photosynthesis and to obtain more efficient partitioning of the products of photosynthesis into food products of high nutritional value.

Expansion of research is needed in three major subareas (a) identification of the aspects of photosynthesis which limit carbon dioxide input in natural environments, (b) relationship of plant development to photosynthesis, and (c) development of new methodology for plant breeders which would aid in identifying and incorporating improved photosynthetic efficiency into crops.

Nitrogen Fixation--Adequate supplies of nitrogen are essential to crop productivity. Increased crop yields during the past 25 years have paralleled increased use of nitrogen fertilizer. For several reasons, including energy and economic costs, improved or alternate technologies for providing nitrogen to crops need to be developed.

Genetic Engineering for Plants--Determine those plant processes and characteristics which can be used by plant breeders in manipulating plant genotypes to increase crop productivity. Biochemists and plant physiologists must be brought into direct and active team participation with plant breeders and other scientists who work with the genetic and cultural improvement of crops. Studies are needed to utilize pollen cell and tissue culture techniques to accelerate genetic improvement of crop plants.

Plant Protection--Plant pests are a major limitation to high crop productivity. Progress in reducing pest losses has been impeded by the rapid obsolescence of available technology, by various changes in production practices, and by the continued penetration of pests of foreign origin. Studies are needed on losses in production caused by pests, and the adverse environmental effects resulting from

pests and methods of combating them. The emphasis will be on pest insects, nematodes, weeds and pathogenic microorganisms.

Plan of Work: Research will be conducted on four crop productivity areas-- photosynthesis, nitrogen fixation, genetic engineering for plants, and plant protection. Distribution of funds among the four crop productivity areas would be based on the selection of projects from all areas on the basis of their scientific merit, relevance and synergism with other projects. Grant managers and peer panels will be scientists who are competent in their specific fields and have demonstrated managerial capability. Participation of the best researchers throughout the entire U.S. scientific community who have expertise in the four selected areas will be solicited. Personnel from universities, private sector research, and government agencies will be eligible for grants.

- (3) An increase of \$3,904,000 for repair and maintenance of facilities.
(\$3,312,000 available in FY 1977.)

Objective: To restore ARS facilities to adequate working standards and to meet Occupation Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) requirements.

Need for Increase: An increase of \$3,904,000 is requested to finance facility repair and maintenance needs in FY 1978. These funds are necessary to bring research facilities up to established standards for effective building and program management and to meet OSHA and EPA requirements. There are currently 1,464 buildings which were constructed prior to 1945. A recent survey indicated that over 50 percent of those surveyed are in less than adequate condition and in need of immediate attention. The generally poor condition of ARS laboratories is attributed to insufficient funds to cover repair and maintenance needs. Until fiscal year 1977, no funds had been appropriated for the specific purpose of repair and maintenance. Funds from research program effort have had to be diverted to provide minimal repair and other patchwork maintenance as such needs became intolerably evident.

Inflationary pressures within the Nation have been extraordinarily burdensome in recent years; the construction industry in particular has been hard hit. Similarly, the buying power of this Agency's redirected funds to meet repair needs has also diminished, and the practice of applying available funds on a very limited basis, as in past years, is totally inadequate to meet repair and maintenance needs today.

The policy of redirecting program funds to cover repair costs has proven ineffective and is responsible for the decayed and deteriorated condition of ARS facilities. Additionally, the lack of available funds has prevented the renovation of existing facilities to meet changing requirements in performing research, thus handicapping research progress. An effective facilities management program is needed at this time for the success of the Agency's research efforts. To delay further the implementation of an orderly repair, maintenance and modernization program will result in increased costs for such needs later.

Plan of Work: So that ARS facilities can be maintained in accordance with all Federal standards, and to keep them in satisfactory working condition to meet research program needs, ARS's repair and maintenance program should be adhered to as presently planned. Funds provided for these purposes in FY 1977 of \$3,312,000 do not allow for the immediate needs of this repair program as previously determined and are inadequate to meet these needs as planned over the long-term program objective. The current planned program for repair and maintenance is based on a survey of all ARS research facilities' needs that would be required to bring them to acceptable levels of working conditions. The program as developed provides a comprehensive time-table for scheduled repair and maintenance over a period of 5 years. This plan considers all the repair and maintenance needs warranted and would be implemented on a priority basis. In order of priority, these needs would be (1) eliminating safety hazards and meeting health and environmental protection requirements, (2) prevention of loss of Federal property, (3) renovation of facilities to adequately meet program needs and (4) improvement of the appearance of ARS facilities.

(4) An increase of \$1,020,000 for pesticide impact assessment

Objective: To establish a program for coordinating and managing ARS activities related to pesticide impact assessment. The program will be implemented as a coordinated effort by ARS, CSRS, ES, APHIS, ERS and FS.

Need for Increase: As increase of \$1,020,000 is requested in FY 1978 for pesticide impact assessment. The present capability of the USDA is inadequate for dealing with the biological and economic benefits of pesticides. Presently, estimates on the effect of many pesticides are very subjective and based on limited data. With the requested funding and staffing increase, reliable estimates could be produced to provide greater confidence in the decision-making process.

The amount requested, \$1,020,000, includes \$376,000 to be transferred to Forest Service in FY 1978. Identical amounts are also being requested in a proposed 1977 supplemental. The proposal is a coordinated research effort involving both agencies in assessing the biological and environmental impact of pesticides.

The benefits and risks of continuing the uses of a large number of pesticides will be considered by the U.S. Government over the next few years. Decisions made in this regard, especially those related to reregistering existing pesticides for specific uses and registering newly developed pesticides, could impact significantly on U.S. agriculture.

Under 1972 Amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) was assigned authority for regulating uses of pesticides. Pursuant to this and subsequent legislation, EPA has a mandate to review all existing pesticide registrations and either reregister or initiate cancellation proceedings for specific pesticide uses by October 21, 1977. Issues related to registering new pesticides are expected to extend well into the 1980's. As of June 1975, there were about 30,000 Federal and 15,000 State registered pesticide products with approximately 1,400 active ingredients.

EPA has notified Congress of its intention to conduct indepth reviews for more than 100 pesticides before reregistration decisions are made. Of these, at least 25 are of significant importance for agricultural and forestry uses. The reregistration of a number of these pesticides may be challenged. The process EPA has developed provides for input from USDA.

Specifically, EPA, in carrying out its mandate, must notify the Secretary of Agriculture of EPA's plans to take actions. These actions include cancelling the registration of specific pesticides, conducting public hearings that may lead to cancellation and issuing regulations. The notification must be given 60 days prior to the intended action date. Responses must be given within 30 days and will be published in the Federal Register. These procedures provide an opportunity to develop objective, accurate data and analysis, and to define and evaluate benefits and risks of selected uses. Positive responses to these reregistrations and regulation actions require more resources. Currently, 3.6 Scientist Years and \$284,000 are directly involved in pesticide assessment activities. ARS will redirect base funds to add 6.4 Scientist Years and \$516,000 to this research in 1977. Similarly, Forest Service will redirect 3.0 man-years and \$195,000 to this research in 1977.

Plan of Work

Agricultural Research Service

Assessment Teams: ARS staff scientists and analysts will join with representatives of other agencies in collection, appraisal, and evaluation of available data on benefits of selected pesticide uses for presentation of EPA's use in benefit/risk assessment, drawing on present and past ARS research. ARS contributions will include data on yields and production of crops and animals with and without use of pesticides and of their alternatives or substitutes (if any); degree of pest control of these pesticides (efficacy), and on quality maintenance of stored and

processed agricultural products with and without the use of pesticides or their alternatives and substitutes (if any). Analysis will also include information on the current recommended application levels of these pesticides. This biological information will be supplied to their economist counterparts on the assessment teams.

ARS scientists will conduct additional field experiments and laboratory research as needed to complete the data needs for the most critical pesticides. This will include research to determine current effectiveness of pest control, control effectiveness of selected alternative materials and methods, number of applications required and dosage rate, need for replanting as a result of pest damage, resistance problems, metabolism and residue after application and unanticipated contingencies. This will be done on a highly selective and targeted basis, based on findings of the Assessment Team and priority advice of our interagency Technical Advisory Group.

Forest Service

Forest Service scientists and analysts will join with representatives of other agencies in collection, appraisal, and evaluation of available data on benefits of selected pesticide uses. Forest Service contributions will include analyses of protection of forest and related resources, including timber products, with and without use of the pesticides and of their alternatives. Information on these pesticides will be supplied to economist counterparts on the Assessment Teams.

Forest Service scientists and their cooperators will conduct additional field experiments and laboratory research as needed to complete the data needs for the most critical pesticides. This will be done on a highly selective and targeted basis, based on findings of the Assessment Teams and advice of the Technical Advisory Group.

- (5) An increase of \$1,012,000 for annualization of pay increases effective in FY 1977. (\$10,013,000 available in FY 1977).
- (6) An increase of \$258,000 for space rental costs pursuant to P.L. 92-313. (\$1,758,000 available in FY 1977).
- (7) An increase of \$536,000 to cover increased costs for services provided through the Department Working Capital Fund. (\$4,515,000 available in FY 1977).
- (8) A decrease of \$450,000 to eliminate non-recurring funds for purchase of land. (\$450,000 available in FY 1977).

Need for Decrease: The 1978 Budget Estimates provide for a decrease of \$450,000 to eliminate the non-recurring amount provided for the purchase of land at the U.S. Sugarcane Laboratory, Houma, Louisiana, in 1977.

Following is a cross-reference table relating the proposed increase packages to budgetary projects.

GROSS REFERENCE OF PROPOSED INCREASES TO BUDGETARY PROJECTS
(IN THOUSANDS OF DOLLARS)

Budgetary Project	Total Requested	Animal Production Efficiency	Crop Production Efficiency	Tropical & Subtropical Agriculture	Conservation & Use of Land & Water Resources	Watershed Development	Marketing Efficiency	Expand Agricultural Exports	Food & Nutrition	Improve Human Health & Safety	Consumer Service	Housing	Competitive Grant Research Fund
<u>Proposed Increases (Packages)</u>													
Providing for food needs in the Third Century.....	\$5,250	\$50	\$4,875	-	\$325	-	-	-	-	-	-	-	-
Pesticide impact assessment program	1,020	87	480	-	453	-	-	-	-	-	-	-	-
Repair and maintenance of facilities	3,904	964	1,723	\$12	436	\$174	-	\$39	\$242	\$298	\$10	\$6	-
Annualization of pay increases effective in FY 1977 ...	1,012	359	254	3	79	27	215	7	23	42	1	2	-
Payment to GSA for rental of government-owned or leased space	258	52	97	1	23	9	49	2	13	11	1	-	-
USDA Working Capital Fund Service	536	107	201	1	49	19	102	4	27	24	1	1	-
Competitive Grant Research Fund	27,600	-	-	-	-	-	-	-	-	-	-	-	\$27,600
Total 1978 Budget Estimate Increases	39,580	1,619	7,630	17	1,365	229	366	52	305	375	13	9	27,600
Redistribution of 1977 Repair and Maintenance increase	-	-439	+35	-6	+24	+1	+199	-1	+104	+72	+7	+4	-
Total increase and decrease on Project Statement	39,580	1,180	7,665	11	1,389	230	565	51	409	447	20	13	27,600

STATUS OF PROGRAM

The Service is a mission-oriented Agency concerned with research to insure an abundance of high quality and reasonably priced agricultural products to meet the needs of an expanding domestic and world economy, and contribute to continued improvement in the American standard of living. The Service uses coordinated, interdisciplinary approaches to conduct basic, applied, and developmental research in the fields of livestock, plants, soil-water-and-air resources, environmental quality, processing, storage and distribution efficiency, food and nutrition, consumer services, rural and international development, and agriculturally related health hazards, including food safety.

Research is conducted at numerous locations in the States, Puerto Rico, Virgin Islands and in several foreign countries. Much of the research is conducted in cooperation with the State agricultural experiment stations, other State and Federal agencies, and private institutions.

RESEARCH ON ANIMAL PRODUCTION

Current activities: Research is conducted to increase and improve the efficiency of producing high quality animal and animal products through improved genetic and reproductive capacity, feeding and management practices including the use of non-competitive feed sources, equipment, buildings and energy use and to develop better methods for controlling diseases, parasites, insects and other pests and hazards.

As the production of animal and animal products continues to rise in the United States and the world, there is a need for new technology to enable livestock producers to achieve greater production to assure a reliable supply of animal protein and at the same time reduce their production costs. These lower costs are thereby passed on in the market place to the consumer as lower prices of meat and other animal products. The following are selected examples of recent progress on animal production efficiency research.

Research on rural housing is conducted to provide knowledge and technology to help bring about improved designs, material, and construction methods for both low-cost renovation and new construction of housing suitable for low-to-moderate income rural residents.

Selected examples of recent progress: A description of these examples follows:

Calves by Sires of Large Breeds have Reduced Production Costs. Calves from matings of large-breed sires to medium-type cows of British breeds produced calves that are more efficient feed converters and had leaner carcasses. The results can reduce the retail cost of this beef by 6 cents per pound.

Hormone Treatment Used to Improve Reproductive Efficiency in Swine. Injections of hormones would permit the breeding of young females as early as 160 days of age and permit rebreeding during nursing. Treatment of these young females prior to puberty with a synthetic hormone resulted in pregnancy at the rate of 65 percent.

Marketing Lambs at Heavier Weights Increases Efficiency. Selection procedures that identify parents with genetically superior characteristics will increase the ability of lambs to reach heavier market weights at 14 to 22 weeks of age and still maintain acceptable carcass and meat quality. Net returns to the industry due to the increased efficiency is estimated at \$3 million a year.

More Efficient Utilization of Animal Byproducts as Feed. Poultry offal meal, a byproduct of the poultry industry, is used as a poultry feed ingredient. ARS research has standardized the processing method to maximize the feed value, the protein quality, and the uniformity of the feed ingredient. These improved characteristics increased the overall value of offal meal as a poultry feed.

New Poultry Brooding Systems Reduce Energy Requirements. A new concept in brooding in which a limited area is used within the house for brooding reduced the fuel required to grow broilers in mid-winter in Mississippi from 90 gallons of liquified petroleum gas per 1,000 chickens to 30.5 gallons per 1,000 chickens. Use of solar energy in conjunction with limited area brooding reduced fuel requirements to 8.2 gallons per 1,000 chickens.

New Procedure(s) Helps to Understand Resistance to Brucellosis. A laboratory procedure has been developed at the National Animal Disease Center at Ames which represents further progress toward determining whether an animal's resistance to brucellosis is a result of vaccination or actual field infection. Such information is essential for the eradication of cattle brucellosis in the United States.

Inexpensive Test for Diagnosis of Influenza Infection of Birds and Mammals, Including Man. The demonstration of antibody in the serum of animals or man previously infected with influenza viruses has in the past been accomplished by a complicated test requiring considerable labor. An ARS scientist developed a fast, inexpensive test that is currently in use in most animal and human diagnostic laboratories.

Bluetongue Virus (BTV) Can be Spread by Infected Semen. A bull showing no signs of the disease although shedding BTV in semen was bred naturally to several susceptible heifers. ARS research has shown that BTV can be spread by semen causing reproductive problems in the females, including abortion and failure to breed. Most surviving calves from these matings were carriers of BTV.

Plant Extract Repels Coyotes. In many areas, coyote predation has seriously restricted sheep and goat production. ARS field studies and controlled research have confirmed that when certain extracts of the bitterweed plant were sprayed on the wool of sheep, the predation by coyotes was significantly reduced for about 60 days. The extract was not toxic to sheep.

New Screwworm Trap and Attractants Developed. A new screwworm trap using a chemical attractant instead of rotting liver has been adapted by APHIS. This trap design and attractant, products of ARS research at Mission, Texas, catches more screwworm flies and less extraneous flies than the standard liver baited trap. The new trap is easier to handle, more effective, and cheaper than the standard trap which was designed about 40 years ago.

Low-Cost, Solar Collector Reduces Rural Home Heating Costs. An attic solar collector was developed and proven practical for heating rural homes in the Southeast. Solar heat transmitted through the roof to attic floor collectors satisfied nearly all the house heating requirements for a Greenville, South Carolina, experimental house. The system will particularly be useful for low-income families who could arrange for paying for the added collector costs but are having great difficulty meeting their escalating monthly fuel bills.

USDA-DHIA Sire Summaries and Cow Indexes have Accelerated Genetic Progress in Dairy Cattle. A study of nearly three million production records shows little genetic progress between 1960 and 1967. From 1967 to 1975, 34 percent of the 942 pound gain per cow in milk production resulted from improved genetic merit. During this period, use by dairymen of USDA-DHIA Sire Summaries and Cow Indexes has been a primary factor in genetic progress in dairy cattle.

RESEARCH ON PLANT PRODUCTION

Current activities: Research is conducted to improve productivity and quality of food, feed, forage, and fiber crops; florist and nursery crops; and turf. Emphasis is on research to improve genetic stocks and varieties, increase yields and quality of crops, improve mechanization and crop production practices, enhance environmental quality, and improve crop protection technology, including biological and chemical methods to control diseases, nematodes, insects, and weeds, and to alleviate the effects of adverse environmental conditions through hardier plants. Research is carried on in related areas of tropical and subtropical agriculture.

New multidisciplinary concepts for increasing our productive capacity have been initiated. Special emphasis has been placed on improving basic photosynthetic processes in plants, natural nitrogen-fixing processes in soils and plants, better use-efficiency of both renewable and non-renewable energy resources, and control of plant growth and development.

The quality of our environment can be improved by the development, appropriate use, and care of attractive shelterbelt screening, ornamental trees, shrubs, turf, ground covers, and flowers. There are an estimated 75 million acres of cropland affected by wind erosion, the adverse effects of which could be reduced by shelterbelt screening. New knowledge to preserve attractive and eliminate unattractive environmental conditions is needed by rural and urban property owners throughout the nation.

Selected examples of recent progress: A description of these examples follows:

A New High Yielding, High Solids, Pest Resistant all Purpose Potato Variety Developed. The 'Atlantic' potato variety was jointly released by and is widely adapted for growing in Florida, Virginia, New Jersey, and Maine. It possesses the highest total solids content of any potato variety grown in the United States, important to processors. Atlantic is immune to virus X, late blight, and highly resistant to golden nematode, scab, and field rots.

Corn and Sorghum Scientists Reduce Genetic Vulnerability to Pests. A broad genetic based corn breeding population was released in 1975. The population has multiple pest resistance to European corn borer, two virus diseases and northern leaf blight fungus and superior yield performance. A new broad genetic base in sorghum has been developed which should greatly reduce our dependence on one male sterile system in sorghum hybrid seed production.

Tobacco as a Source of High Quality Protein. ARS scientists have discovered a high quality protein byproduct of tobacco production which could become a source of food for humans and animals. This protein has been separated in small quantities from the cell sap during the homogenized leaf curing process. There is potential for removal of 40-60 pounds per acre of the material based on amino acid composition.

Introduced Weevils Released in Three Additional States for Control of Thistles. A weevil discovered in Europe and first introduced in Virginia in 1969 has recently begun to reduce musk and plumeless thistles significantly. In 1975-76 several thousand of the weevils were collected in Virginia and now have been dispersed to 28 sites in Maryland, New Jersey, and Pennsylvania in cooperation with organizations in these states.

Taxonomic Analysis of all Western Hemisphere Relatives of the Mexican Bean Beetle Provides Base for Biological Control Explorations. The 288 New World beetle species allied to the Mexican beetle were defined, characterized and known geographic distributions mapped. This will allow more effective search for biological control agents of the pest.

Hybrid Sunflowers Developed by ARS. These hybrids, developed by ARS scientists during the past 6 years by selection and breeding among open-pollinated Russian and wild North American sunflowers, were used in more than 90 percent of the 1976 North American sunflower acreage. Yield Increases from them are estimated at 10 to 20 percent.

A New Versatile Pecan Variety Released. Kiowa, a new pecan variety suitable for southeastern and southwestern United States, has been released by the U.S. Pecan Field Station, Brownwood, Texas. This is the 15th varietal release by ARS scientists at Brownwood. Kiowa is precocious, prolific, and suitable for high density planting, as a temporary tree, or as a permanent tree if pruned to regulate tree size.

First Blueberry Variety Resistant to Root Rot Developed. A new variety named Patriot, known to be resistant to root rot, has been jointly released by ARS and the University of Maine. Patriot is hardy, capable of withstanding lower temperatures and is more productive than any other highbush blueberry grown in its adapted area.

New Method Developed for Increasing Plant Mutations. Mutations critically needed for improving hybrid millet have been induced by ethidium bromide (EB). This discovery offers new opportunities for developing high hybrid vigor and higher yields in food crops.

Improvement of Nitrogen Fixation Capacity of Alfalfa. When alfalfa plants selected as high nitrogen fixers were crossed, their progeny were also high fixers. Conversely, progenies from crosses between low fixers were likewise low fixers. This opens the way for development through breeding of alfalfa varieties with even greater nitrogen fixing potential.

First Wheat Variety Resistant to Greenbug. ARS and Oklahoma State University scientists successfully transferred greenbug resistance from rye to wheat. This research will greatly benefit wheat production. The greenbug (a plant aphid) is the most damaging insect pest of wheat in the Great Plains, and recently invaded the Northwest.

DNA Similarities in Host Plants and Viruses. Sequences of the genetic material DNA have been found in potatoes which correspond to the same genetic material found in a virus which can attack potatoes. This suggests that the virus may have originated from genetic material in the host plant. This is important knowledge for helping develop virus-free potatoes.

Development of Hybrid Cucumbers Made Possible. Nearly half of the cucumbers offered for sale were developed from plant introduction selections discovered at the Northeast Regional Plant Introduction Station. One of the most recently developed cucumber strain produces only female flowers, making it extremely useful as the female parent in producing commercial cucumber hybrids.

Friction Separator Device Improves Separation of Weed Seeds from Alfalfa Seeds. Alfalfa-dodder mixtures were separated with a scale model friction separator. Removal of 99.9 percent of the dodder seeds was accomplished with approximately a 0.2 percent loss in alfalfa seed. The estimated benefit by the seed processing industry from this development will exceed \$1,000,000.

Mechanical Rhubarb Harvester Reduces Labor and Cost. ARS scientists at East Lansing, Michigan, developed a mechanical harvester for rhubarb that reduces labor by 50 percent and harvesting costs by 25 percent. Rhubarb production is a small industry, small producer business, and close to extinction without help such as mechanical harvesting.

Recirculating Sprayer Increases Selectivity of Johnsongrass Control in Soybeans at Reduced Cost. The most effective foliar-applied herbicide for johnsongrass control is too toxic to soybeans for conventional applications. A recirculating sprayer has been devised which provides excellent johnsongrass control with little soybean injury using available effective herbicides. Material not deposited on the weed is trapped and returned to the spray tank for reuse.

Offspring Obtained from Honey Bee Semen Stored in Liquid Nitrogen. For the first time, progeny were produced from honey bee semen stored in liquid nitrogen. If stored sperm remains viable for several years, the method will provide unlimited storage potential to bee stock centers and much improved bee breeding opportunities.

New Herbicide Developed for Control of Wild Oat and Other Weeds in Wheat. Wild oat reduces wheat yields in the U.S. approximately five percent annually. For North America, these losses are valued at more than one-half billion dollars. Current wild oat control practices are not adequate. The new herbicide kills wild oat by inhibiting a natural plant hormone, but wheat is not affected.

A Bacterial Insect Toxin Developed to Replace Pesticidal Chemicals. A common bacteria found in soil all over the world produces a crystalline material that is extremely toxic to insects. The toxic feature of the material is not activated in mammals. Therefore, this product is safe to animals and humans and is a plausible alternative to pesticidal chemicals now used to protect grain storage and field crops.

Research Responds to Citrus Blackfly Threat. ARS scientists in both Florida and Texas have made highly important contributions to the effort to control a new infestation of citrus blackfly in southeastern Florida. Two different species of parasites have been introduced, become established, and are now showing an effect on the infestation. A new trap for detecting and monitoring infestations was developed.

Research Makes Eradication of Medfly from Los Angeles Possible. Technology developed by ARS scientists enabled State, Federal, and local action agencies to successfully eradicate an infestation of the Mediterranean fruit fly from Los Angeles. In addition to technical advice and assistance, ARS supplied over 500 million sterile medflies for the operation.

Plant Growth Regulators for Insect Control. New chemicals applied to cotton for terminating late season fruiting greatly reduces pink bollworm populations. This practice, particularly when used in conjunction with nectarless varieties and judicious use of insecticides, could substantially reduce the quantity and cost of chemical insecticides and increase the efficiency of cotton harvesting.

Increased Resistance to European Corn Borer by Combining First and Second Generation Resistance. Over 21 million acres of corn are planted to hybrids with resistance to first-generation European corn borers. This method has reduced damage to first-generation borers, but late season borers have not been controlled. ARS scientists have now combined first and second-generation resistance into one corn type to provide first and second generation resistance.

Sterile Male Insects can be Produced Through Hybridization. When male tobacco budworms, a serious crop pest, are crossed with females of a related species, the male offspring are sterile. The hybrid females cross readily with tobacco budworm males in the field and again produce sterile males and fertile females for at least 40 generations. Thus, these hybrids may be used to suppress pest populations without the use of chemicals.

Molecular Models Discovered for Safer Insecticides and Nematicides. A family of fairly simple chemical compounds has been discovered which destroys insects and nematodes. These candidate pesticides are more versatile than juvenile hormone-like materials because they disrupt development during all immature stages of the pests. They have many potential uses for pest control.

Potent Attractant Found for Japanese Beetle. Female Japanese beetles attract males by emitting a potent perfume. This sex attractant has been chemically identified and synthesized. The synthetic attractant has been successfully tested in the field. Formulations of this attractant and a food attractant are being developed for detection of beetles in previously uninfested areas, for measuring densities of the pest population, and for their possible control.

Photosynthate Partitioning is Genetically Controlled. Photosynthate, the immediate product of photosynthesis, is transported from leaves to various parts of the plants and is then partitioned into the yield of crops. The efficiency with which photosynthate is partitioned in crops affects the yield potential. Genetic control of partitioning has been identified in sugarbeet and alfalfa which can aid breeders in developing superior yielding varieties.

RESEARCH ON THE USE AND IMPROVEMENT OF SOIL, WATER, AND AIR

Current activities: Research is conducted to improve the management of natural resources, including investigations to improve soil and water management, strip mine reclamation, salinity control, fertilizer efficiency, tillage practices and machines, irrigation and drainage practices, and to determine the relation of soil types and water to plant, animal, and human nutrition. The research includes studies on management of organic matter in soils, better crop residue management, and more effective use of agricultural, urban, municipal, and industrial wastes as fertilizer supplements and soil conditioners on agricultural and other land areas. Hydrologic problems of agricultural watersheds are being studied, as well as the use of remote sensing techniques in solving agricultural problems. Research is also being conducted on agricultural pollution problems such as protection of plants, animals, and natural resources from harmful effects of soil, water, and air pollutants, and ways to minimize and utilize industrial processing wastes of agricultural commodities. Several ways to conserve energy in agriculture are being explored as part of the above activities.

There is a need for land and water resource improvement to maintain and improve the quality of the environment and the natural resource base, to stabilize crop yields during climatic extremes, and to enhance the development of rural communities.

Selected examples of recent progress: A description of these examples follows:

Yields of Small Grains on Sodic Soils Increased by Deep Plowing. Sodium-affected soils of the Northern Great Plains frequently have gypsum present in the subsoil. ARS scientists have shown that deep plowing to destroy the impermeable layer and to mix subsoil gypsum into the root zone increased wheat yields by 9 bushels per acre per year during the last 5 years.

New Irrigation Technology Offers a Variety of Benefits. ARS improved irrigation in Colorado, reduced salt loading in the Colorado River, used less water and fertilizer, and increased corn production. Similar results were achieved on citrus in Arizona. Optimum yields of sorghum in Texas resulted when limited amounts of water were applied at critical growth stages. In Nebraska, irrigation scheduling avoids periods of peak power use, saves energy, and reduces irrigation pumping costs.

Procedures Developed for Simulating the Geographic Structure of Watersheds. Recent studies at Tucson, Arizona, have identified the procedures needed for characterizing and simulating watersheds of complex topography. This information is necessary to predict the impact of land use and management on the quality of water in the Nation's streams.

A Reduction in Net Photosynthesis was the Principal Effect of Water Stress. In a field study of a number of soybean varieties, photosynthate fixed in the leaves was transported primarily to the seed, and transport to the root system and the nodules was drastically reduced at onset of fruiting. This directs us to develop management systems that optimize water supply during the fruiting period.

Bench and Outer Slope Areas of Strip Mines Stabilized Using Vegetative Cover. Bench and outer slope areas of strip mine spoils can be stabilized against erosion and subsidence. Two species of bermudagrasses were successfully established on spoils treated with raw rock phosphate or lime plus fertilizer. Contoured grooves on steep outer slopes aid establishment of vegetative cover.

Nitrogen Use Efficiency Relationships Quantified for the Northern Great Plains. The relationship between nitrogen-use efficiency and nitrogen-fertilization rates was quantified and equations developed. The number of cows an acre of pasture can support was doubled with the addition of 50 pounds of nitrogen per acre in a cow-calf grazing study. Each pound of nitrogen-fertilizer produced about 20 pounds of dry forage, which in turn, produced 2 pounds of beef.

Breakdown Rate of Pesticides in the Free Atmosphere was Measured. Techniques for increasing photochemical degradation rates of pesticides in the free atmosphere have been developed by ARS. These findings should have major significance in assessing atmospheric transport of pesticides.

Land Application of Sewage Sludge Environmentally Safe, Saves Fertilizer and Energy. Sludge-treated infertile sandy Minnesota soil produced over 200 bushels of corn per acre during the past 2 years. No soil or water pollution was detected during this time nor was crop quality impaired. In addition, energy was saved by minimizing the need for fertilizer and eliminating expensive incineration.

Wind Erosion Reduces Soil Productivity. Recent experiments using newly developed procedures show that wind can erode from 1/4 to 1-1/3 inches of surface soil each year from the Great Plains. These soil losses, in turn, can result in annual yield losses of 1/3 to 2 bushels of wheat and from 1/2 to 3 bushels of grain sorghum per acre. Also, accompanying air pollution from dust and associated farm chemicals is a major problem.

Suspended Sediment Measured by Remote Sensing. Knowledge of suspended sediment loads is needed for wise management of reservoirs and land. Reliable estimates of suspended sediment have been made from measurements of solar radiation reflected from water surfaces of lakes.

Agricultural Applications of Solar Energy. Through ARS managed research projects, the technical feasibility of curing or drying several kinds of crops and of heating livestock shelters and greenhouses was demonstrated. Future economic feasibility is promising for use of solar energy in tobacco curing, greenhouse heating, and heating ventilation air for swine and poultry shelters.

PROCESSING, STORAGE, DISTRIBUTION, NUTRITION AND FOOD SAFETY, AND CONSUMER SERVICES RESEARCH

Current activities: Research is conducted to improve the efficiency of processing, storage, and distribution of agricultural products. Studies include the development of new and improved food, feed, fiber, and industrial products and processes, and utilizing renewable agricultural commodities in order to maintain and expand domestic and foreign markets for farm crops. Studies also involve quality evaluation, transportation, storage, wholesaling and retailing of products, to reduce costs of marketing, to maintain product quality, to reduce losses from waste, spoilage, insect festation, and pollution.

Research is conducted on human nutritional requirements, composition and nutritive value of foods to provide information needed for consumers and for Federal, State and local agencies administering food and nutrition programs.

Research is conducted on problems of human health and safety. Studies concern developing means to insure food and feed supplies and products free from toxic or potentially dangerous residues, harmful chemicals, and microorganisms introduced from agricultural sources, or during processing operations. The research conducted also includes studies concerning means to control insect pests of man and his belongings; prevent transmission of animal diseases and parasites to man; reduce the hazards to human life resulting from pesticide residues, toxic molds, tobacco, and other causes; and, develop technology for the detection and destruction of illicit growth of narcotic-producing plants.

Research is conducted on consumer services by studying family use of resources, by identifying budgeting problems of families, and by providing information on fabric performance and the use and care of clothing and household articles by consumers.

Selected examples of recent progress: A description of these examples follows:

Rapid Method for Determining Sprouted Wheat Damage. A method was developed for the rapid, convenient detection and estimation of sprout-damaged wheat by colorimetric determination of a characteristic enzyme. The method requires only 5 minutes incubation time, no elaborate equipment, and is simple to use.

ARS Research Facilitates Exportation of Grain. Scientists developed insect control techniques that allow infested grain to proceed to destination under fumigation. These new procedures eliminate hazards to inspectors, resulting in substantial savings in payment of excessive demurrage charges.

Basic Research Gives Clue to Fruit Aging. Apple tissues of various ages were treated with plant hormones to determine their anti-aging effects after harvest. Only the hormones, cytokinins, were effective in suppressing ethylene production suggesting that these compounds might be used to extend the storage and marketing life of the apple.

New Packaging Concept Protects Peanut Quality and Eliminates the Necessity of Refrigerated Storage. Roasted or raw peanuts placed in closed environment such as a plastic bag, flushed with carbon dioxide, and heat sealed will maintain their freshness for months without refrigeration or other treatment. Insect infestation is also eliminated. Other oilseeds such as pecans, cashews and almonds can also be packaged by this method.

Whitewashing Reduces Sunburning of Melons. Over \$3 million worth of cantaloupes were lost in 1975 as a result of sunburning in the San Joaquin Valley alone. Whitewashing melons during growing season can substantially reduce the incidence of sunburn. Whitewash is inert and nontoxic and has no effect on the sugar content or other quality factors.

Increasing the Value of Tallow. A fatty acid derivative synthesized by ARS Chemists has great market potential for increased higher value use of tallow. Engineering research resulted in a continuous, optimized and economically attractive process which has stimulated development and commercialization by an American licensee who expects substantial production by August 1977.

Wood Preservative Protects Timber in Marine Environment. Research on biologically active substances led to isolation of compounds which completely protect pine wood on long exposure in the marine environment. Potential use of this chemical as a wood protectant against termites is currently being tested. If applied generally, annual benefits could amount to several hundred millions of dollars saved in timber replacement and the use of lower cost woods.

Handling Systems for Frozen Food have Different Efficiencies. Systems for handling and transporting frozen food from the processing plant to the wholesale warehouse were analyzed. The most efficient system results in a savings of over \$11 per trailerload, or an annual saving of over \$3 million.

Dye Test Measures Sanitary Condition of Ground Beef. A dye reduction method was developed for estimating the level of microbial contamination in ground beef. After further research, meat wholesalers, retailers and consumers may be able to estimate the bacterial content of a package of ground beef by visual observation of color changes in an indicator disc placed on the meat surface at the time the meat was packaged.

New Techniques Keep Meat Fresher Longer. Introducing a controlled gaseous atmosphere into individual meat packages can preserve freshness for longer time periods than with conventional packaging. Meats also retain their bright red appearance longer. Currently, the average store may remark 7-8 percent of its conventionally packaged meat and may lose 50 percent of the original price.

Urban Wholesale Market Studies Continue. The study on Improved Food Distribution Facilities for Asheville, N.C., is published and the State has appropriated \$1 million to initiate the plan. The study for Memphis, Tenn., is complete and a report is being prepared. A study for Northeast New Jersey is underway which involves an 8-county area with over 1,600 wholesale food firms. Urban wholesale markets have been built or are under construction in 40 of the 70 cities where ARS studies have been completed.

Pollution Control in Poultry Processing Plants is Improved. A new pneumatic waste handling and transport system for poultry processing plants prevents the waste products from entering the plant effluent, thus significantly reducing the pollution load. Potential \$10 million savings to industries.

Additives can Effectively Reduce Cotton Dust in Mill Processing. Card room dust levels are reduced significantly when hydrocarbon oil-based additives are applied in very small amounts under controlled conditions to raw cotton prior to processing. Achieving similar reductions in atmospheric cotton dust levels by air filtration methods would be more costly.

New Machine Converts Staple Fibers Directly into Yarns. The machine converts tufts of loose cotton directly into yarn ready for knitting or weaving. The new method eliminates six or more separate textile mill processing steps, can save one-half of present mill floor space and labor, and requires only three-quarters of the energy now used in conventional mill processing.

New Method for Dyeing Wool Yarns Produces Novel Color Effects. A simple modification of the conventional package dyeing process produces randomly or periodically dyed yarns with two or more colors along the length of the yarn which after knitting or weaving produces color effects and patterns unobtainable by printing or other means. This process will assist users of wool yarns to expand fashion interest for wool textiles.

Zinc Deficiency in Pregnant Animals Affects the Brain and Behavior in Offspring. Offspring of rats deprived of zinc in the third period of pregnancy showed impaired fetal brain growth and neurological development as well as behavior changes. Infants of rhesus monkeys deprived of zinc from day 110 to 150 of pregnancy displayed decreases in activity, play, exploration, and nursing. These findings have implications for pregnant women who have impaired zinc nutriture.

ARS "Thrifty" Food Plan Used as the Basis for Food Stamp Allotments. The "Thrifty" food plan takes into account the 1974 Recommended Dietary Allowances of the National Academy of Sciences and new information on food consumption, nutritive value of foods, and food prices. The plan demonstrates how families can plan varied meals which supply adequate nutrients at low cost.

Women Taking Oral Contraceptives Need Dietary Counseling. In young women using oral contraceptives, changes were observed when a high sugar diet was consumed that could adversely affect women with metabolic disorders and might precipitate latent conditions such as diabetes or high blood lipids which are associated with heart disease and stroke.

Consumers Choose ARS Bulletins on Food and Nutrition. A Guide to Good Nutrition tops USDA's distribution lists in popularity with a distribution of 466,000 copies for the past calendar year. Other consumer publications sought include Freezing of Fruits and Vegetables; Home Canning of Fruits and Vegetables; Food and Your Weight; and Vegetables in Family Meals: A Guide for Consumers.

Over 140 Consumer Publications Printed in Home and Garden Series in 1976. These included three new publications, 36 revisions, and 103 reprinted. In addition, ARS produced 31 new correspondence aids--small leaflets that answer current questions. These are in addition to farmers' bulletins and technical publications.

PROGRAM EVALUATION

Current activities: In 1975 as part of the Department's Program Evaluation System, the Service initiated a pilot study in the evaluation of research programs. The study was designed to determine if the impacts of research on broad social and economic goals can be identified and measured. In at least some cases such impacts can be measured. In general, however, it is extremely difficult to separate the impacts of the public sector research from those of the private sector, as well as the impacts of ARS research from those of other public research. Further, an evaluation of agricultural research must usually be over some fairly long period of time to allow for the development of new technology and its adoption. Program evaluations in research tend to give more comprehensive views of research than do descriptions of individual examples of scientific achievement. Three selected examples of the results of these evaluations follow:

1. Improved Soybean Harvesting Procedures and Equipment. Research conducted primarily by ARS scientists on soybean harvesting equipment and techniques between 1968 and 1973 has enabled an increase in harvested beans during that time having a value equivalent to a return on investment of 1,000 percent compounded annually over the period. It has also provided the technology for a continuing flow of benefits estimated to range from \$161 million in 1974 to \$259 million in 1980 and totaling \$1.5 billion. This is a magnificent bonus to follow for only 6 years of research costing less than \$0.8 million.

The ratio of benefits to cost from both the continuation of past benefits and the expected additional benefits to 1980 is 940:1. This estimate is based on the net benefits from past improvements continuing until 1980 at the average level of 1972-73, the expected further savings from further adoptions, continued research expenses at the 1974-75 level, and discounting both costs and benefits to 1968 at 7 percent. The net benefits to a typical producer after allowing for amortizing and operating his new equipment are estimated to be \$2.50 per acre over all his acres for conversion to a floating cutterbar and \$1.35 for adding air jets.

The research leading to these remarkable achievements was planned in 1968 by ARS Agricultural Engineering researchers to reduce the percentages of soybeans known to be lost and damaged in the harvesting and handling process. Specific objectives were to: (1) reduce harvesting losses from 10 percent to 4 percent of the crop produced; (2) reduce harvesting damage from 30 percent to 5 percent; (3) reduce handling, drying, and storage losses from 1.0 percent to 0.5 percent; and (4) reduce handling, drying, and storage damage from 10 percent to 5 percent. The work was carried out cooperatively with the University of Illinois in its facilities at Urbana and was coordinated with related efforts at other State Agricultural Experiment Stations. ARS funding and research activity accounted for more than one-half of the total involved. It was decided to concentrate on that area offering the greatest potential benefit, the reduction of harvesting losses. This was to be accomplished by a two-thrust program: (1) evaluating existing soybean harvesting equipment and devising improved and more efficient techniques for its use and (2) developing new harvesting equipment.

Completion of the first thrust resulted in new knowledge of machine capabilities and improved harvesting techniques that enabled the reduction in soybeans lost at harvesting from 10 percent in 1968 to approximately 8 percent in 1973. The total additional return up to 1973 after paying for additional cutterbars was \$285 million. This was attained at a total machinery research cost over the 1968-73 period for all institutions of \$0.8 million. If all of the benefits could be attributed to the research, it would be equivalent to a rate of return through 1973 of 1,000 percent, which would mean that every dollar invested in this research during this period had returned \$10 per year compounded annually from the time of its investment until 1973.

Although knowledge of more effective equipment settings and adjustments and generally improved harvesting techniques contributed to the 2 percent reduction in loss cited above, a major part of the reduction resulted from evaluation and adoption of the floating cutterbar header. This is a commercially available pre-existing combine attachment which, when properly used and adjusted, enables reduction of harvesting losses to about 6 percent when harvesting soybeans below 13 percent moisture.

In addition to the evaluation of existing equipment and development of more efficient practices for its use, ARS scientists by 1973 had tested, and successfully demonstrated to industry engineers a new combine header utilizing an entirely different principle of operation. This header achieves the initial lifting of the severed plant material onto the header by appropriately directed jets of air. Tests over a two-year period indicate the capability of the air jet header, when used in conjunction with the floating cutterbar, to reduce losses from the expected 6 to 10 percent down to less than 2.5 percent when harvesting soybeans at 12 percent moisture.

Research continues on techniques for more efficient use of the air jet header and the proprietary designs being developed by commercial firms to compete with it, and also toward achievement of those other objectives of the program that were postponed during the first years.

2. Fire and Smolder Retardant Cotton Products. Research initiated by the Southern Regional Research Center in 1964 toward improving the flame and smolder retardancy properties of cotton fabrics and cotton batting resulted in 13 documented cases of lives saved in 1973 from the use of flame retardant sleepwear in children's size 0-6X and in mattresses. The economic losses prevented by the saving of these 13 lives (12 from sleepwear fires and one from a mattress fire) amount to over \$6 million. The present value of the savings and lifetime salaries involved, when discounted at 7 percent back to 1973, the year of the fires amounts to \$2.1 million. If this and other benefits made possible by this research should be attributed wholly to research, the benefit to cost ratio would be 6:1.

The present value of \$2.1 million for the 13 lives saved is based on conservative estimates of medical and hospital costs and assumes a lifetime income per person of \$487,873 below 18 years of age and \$239,437 above that. However, nothing can replace or compensate for the loss of human lives. Other benefits to society in 1973 resulted from this research. One is the net value added to GNP by the production of fire retardant chemicals (\$11.7 million), and by the installation of cotton batting machinery (\$1.2 million). A second is in the value of cotton sold to textile processors (\$0.9 million) and bedding manufacturers (\$1.9 million) in contributing to the support of rural area activities for farmers, assuming a 100 percent loss of market if cotton materials could not meet Federal flame retardance standards.

The total cost of R&D effort to 1973 at 7 percent interest compounded annually is \$6.8 million and a similar cost for dissemination of the technology is \$1.5 million. It is estimated that industry, foundations, and other government agencies spent \$25 million for related research during the time period under study and that about one-fifth of this is directly related to flame retardancy in cotton. This would approximately double the annual research cost, thus the total research expenditure as of 1973 would be \$13.6 million.

The ratio of the total of the three kinds of benefits, discounted to 1973, to the total of costs to 1973 is 6:1. The calculations leading to this ratio are considered conservative in that they ignore some value added in the chemical industry in earlier years, do not take into account benefits from treating other fabrics such as tents and draperies, ignore the probable further benefits from extending the fire retardant process to other size sleepwear and to still other apparel, etc. In particular, they make no assumption about the very probable event of preventing even more fires in size 0-6X sleepwear and mattresses in the future years than in 1973. The potential for benefits in 1973 from these two sources was estimated to have been \$52 million had it been fully realized.

In addition to achieving its broad social goals, the flame retardancy research established an enviable record of achievement in publications and patents produced. Over the period 1964 to 1973 this work produced 146 technical publications and 54 patents issued with 23 others applied for and still pending at that time. Additionally, many technical accomplishments representing synthesis and development of fire retardant compounds and processes were completed—including 10 commercialized products. These undoubtedly have had substantial further impact on development by industry and in other areas benefiting society.

Research continues on new methods of measuring flame retardance, identifying combustion products of flame retardant cotton-based textiles, on new and more efficient chemical systems for increasing the fire retardance of cotton and cotton-synthetic blends, and on engineering specifications for the THPOH-NH3 and methyl borate vapor phase processes for improving the fire retardancy of cotton textiles and cotton batting, respectively.

3. Control of Marek's Disease in Chickens. ARS increased research emphasis on Marek's disease of chickens in 1965. This led to the development and full adoption by 1974 of a vaccine that successfully controls the disease. The cost to ARS of this achievement was about \$8.5 million at the USDA Regional Poultry Research Laboratory (RPRL) at East Lansing, Michigan, for research on, primarily, Marek's disease. It was matched by an approximately equal amount from other public institutions interested in research on Marek's disease and lymphoid leukosis, but primarily on lymphoid leukosis. The total of this public sector support is estimated to have been matched by research funds in the private sector, thus the total is estimated to be \$32 million. There is, also, a laboratory in England comparable to the RPRL working on the avian leukosis problem.

The savings and increased production made possible by this vaccine by 1974 were sufficient to represent a return of 33 percent compounded annually on the total research investment, public and private, on this problem and its related disease, lymphoid leukosis, over the 10-year period from 1965 to 1974. If it is assumed that the benefits of \$168 million experienced in 1974 from Marek's disease alone will continue for another 10 years before replacement by some other technology, and that the total of all research efforts will continue at the 1974 level of \$4.3 million, the total estimated returns made possible by this research by 1984 would be sufficient to support a return of 88 percent compounded annually on the

total invested in this research over the 20-year period. Neither of these estimates assume credit for benefits other than Marek's disease control.

If both costs and benefits are discounted at a reasonable cost-of-capital rate of 7 percent annually to 1965, the ratio of benefits to costs is 22:1. Even if costs from the beginning of the laboratory in 1939 to 1965 should be considered (The ARS part was less than \$6 million.), and even if only the benefits from the Marek's disease vaccine as delineated here are considered, and even if the total cost over the entire period was four times the ARS cost as in recent years, the operation would still be highly profitable—the benefit to cost ratio is still about 4:1 even when discounted at 7 percent to 1939.

Although the ARS financial contribution to this research was only about one-fourth of the U.S. total, most of the major discoveries in this country relative to the Marek's disease vaccine were made by ARS scientists and the Marek's disease vaccine is widely regarded as primarily an ARS achievement. The vaccine made possible the control of this disease on a world wide basis. However, on the assumption that benefits are distributed globally in proportion to global costs, both benefits and costs in this study are reported for the United States only.

Given this outstanding technological breakthrough on a highly complex and difficult research area, a brief description of the historical setting of the RPRL is provided.

The Regional Laboratory was completed in 1939. It was constructed under the Bankhead-Jones Act to conduct research cooperatively with State Agricultural Experiment Stations on the mortality of laying chickens, a problem that had become of increasing importance during the period from 1925 to 1937, a time of very rapid development in the commercial poultry industry.

The research program initiated at the Regional Laboratory soon led to identification of the "avian leukosis complex" as the major cause of the mortality. Through the 1940's and 1950's work continued on the "avian leukosis complex," which included neural, visceral, and ocular lymphomatosis, and was thought to be caused by a single group of viruses. Later work, conducted largely by the Laboratory, showed the complex to be three virus diseases: lymphoid leukosis, Marek's disease, and reticuloendotheliosis. (The last is relatively unimportant).

Until about 1960 the research was directed mainly at lymphoid leukosis. During this period over 200 papers were published contributing to knowledge in the fields of genetics, pathology and poultry nutrition and management. Over one-fourth of these papers were judged to be reporting significant or highly significant discoveries on lymphoid leukosis. There was by 1960, however, still no practical control of the "leukosis complex" in poultry.

By 1961, Marek's disease had been generally recognized as a separate and distinct disease from lymphoid leukosis. During the next few years, there was an apparent increase in its incidence. In the light of this new knowledge about the disease complex and the increasing importance of the Marek's disease component, research emphasis at the Regional Poultry Research Laboratory was shifted in 1965 to Marek's disease. Significant discoveries and developments, though often chronologically dependent, flowed in a rapid stream from the Laboratory with: isolation of the causative virus by 1967; discovery of the transmission mechanism by 1969; isolation of the herpesvirus of turkeys (HVT) and laboratory demonstration of its ability to protect against Marek's disease, both in 1969; field trials of HVT vaccine in 1970, licensing by State for use in Michigan in late 1970, and by the USDA Animal and Plant Health Inspection Service for national use in early 1971. Adoption was judged to be complete (95 percent) in 1974.

The benefits from Marek's disease research are undoubtedly larger than was expected at the inception of the research program. In fact the use of the vaccine soon resulted in an over-production of poultry meat and eggs which, in turn resulted in a severe drop in prices. However, supply and demand have since stabilized and the benefits are now spread to the population at large in the form of a decrease in the cost of production of each broiler and each dozen eggs. As a result, consumers can purchase poultry products at less cost than they could have without these discoveries. Individual producers in the industry may or may not have benefited in the short-run, depending on how rapidly they adopted the new technology. After the short-run economic adjustment problems were overcome, the poultry industry as a whole, however, gained long-run benefits in terms of its competitive position vis-a-vis other foods. Also, the nation has benefited because fewer resources are necessary to produce the same number of broilers and eggs as were produced before the discoveries, with attendant conservation of natural resources and availability of additional human resources for other uses.

In addition to the above tangible benefits, there are many intangible benefits. One is the more predictable and efficient growth of chickens. Another is the impact of this research upon other scientists in various fields, and particularly, in human cancer research.

For example, Marek's disease was and still is the first cancer in man or animal shown to be caused by this type of virus and was and still is the first cancer-like tumor condition in man or animal to be controlled by a commercially applicable vaccine.

Research continues on possible improvement of the protection from Marek's disease, particularly with respect to the problem that vaccinated chickens are frequently latent carriers of the potentially tumor-forming field and vaccine virus persisting in the live bird and carcass after vaccination. Research is also being redirected to the lymphoid leukosis problem with the objective of reducing losses from this disease by treatment and eventual eradication.

Status of Construction Projects as of December 1976

Status of research facilities authorized in prior years, and reported as uncompleted in the 1977 Explanatory Notes, is as follows:

NOTE: (Design criteria provided by ARS to specify the program requirements and form the basis for negotiation of architect-engineer contracts. Diagrammatic drawings provide the basis for the first review of the architect's design. Tentative drawings are provided by the architect for firming up cost estimates and a basis for developing the completed, and final working drawings.)

<u>Location and Purpose</u>	<u>Funds Provided</u>		
	<u>Year</u>	<u>Amount</u>	
<u>California, Albany</u> Wool utilization research	1968 Plans	\$ 50,000 a/	Final working drawings completed May 1970.
	1968 Plans	50,000 a/	Final working drawings completed July 1970.
<u>California, Riverside</u> Soil and water conservation research	1970 Plans	50,000 b/	Final working drawings completed June 1973
	1973 Construction ..	750,000	Construction contract awarded December 1974
	1976 Redirection ...	100,000 c/	Construction expected to be completed in
	Total	900,000	the third quarter fiscal year 1977.
<u>District of Columbia; Washington</u> National Arboretum	1976 Land Acquisition and site preparation	5,985,000	Acquisition of land completed September 1976. Contract for site rehabilitation and temporary road awarded September 1976. Construction expected to be completed in the fourth quarter fiscal year 1977.
	1971 Plans	80,000	Criteria being revised to meet new program requirements.
<u>Louisiana, Baton Rouge</u> Soil and water conservation research	1975 Construction ..	1,400,000 d/	Construction contract for the East Waste
	1976 Construction ..	2,350,000	Water Treatment plant awarded January 1976.
	Total	3,750,000 e/	Construction contract for the West plant awarded September 1976. Construction
<u>Maryland, Beltsville</u> Sewage treatment facilities			

Status of Construction Projects as of December 1976 - Cont.

Location and Purpose

Funds Provided

Year

Amount

Maryland, Beltsville - Cont.

expected to be completed on both projects in the third and fourth quarter of 1977 respectively. Construction contract for the sewer and water lines awarded September 1976. Construction expected to be completed in the fourth quarter fiscal year 1977.

Nebraska, Clay Center
Meat animal research (Phase II)

1968 Plans	\$ 250,000
1975 Construction ..	5,020,000
1976 Construction ..	1,200,000
Total	6,470,000

Construction contract awarded October 1975. Construction expected to be completed in the first quarter of fiscal year 1978. Contract awarded in September 1976 for entire \$1,200,000 made available in FY 1976.

New York, Ithaca
Soil and water conservation research

1968 Plans	40,000 <u>a/</u>
1976 Redirection ...	-40,000 <u>f/</u>
Total	-

Due to cost escalation, funds for the Ithaca, New York project have been redirected to Beckley, West Virginia to provide sufficient funds to construct the facility.

New York, Plum Island
Additional animal and laboratory facilities

1973 Plans	250,000
1976 Construction ..	10,000,000
1977 Redirection ...	650,000 <u>g/</u>
Total.....	10,900,000

Construction contract awarded September 1976. Construction expected to be completed in the fourth quarter of fiscal year 1978.

New York, Plum Island

Air pollution abatement and sewage facilities

1973 Plans and construction .	1,060,000 <u>d/</u>
1976 Construction ..	2,600,000
1977 Redirection ...	-550,000 <u>g/</u>
Total	3,110,000

Construction contract for incinerator modification in Building #257 completed in third quarter of fiscal year 1976. Construction contract for incinerator modification in Building #101 incinerator B awarded September 1976, and construction is expected to be completed in the first quarter of fiscal year 1979. AE contract for incinerator A has been awarded and design is expected to be completed in the third quarter fiscal year 1977.

Status of Construction Projects as of December 1976 - Cont.

<u>Location and Purpose</u>	<u>Year</u>	<u>Funds Provided</u>	<u>Amount</u>	
<u>New York, Plum Island - Cont.</u>				The sewage treatment facilities construction contract was awarded April 1976, and is expected to be completed in the third quarter of fiscal year 1977.
<u>North Dakota, Grand Forks</u> Human nutrition research	1976 Plan	\$ 225,000		Design criteria being prepared. AE contract award expected in the third quarter fiscal year 1977.
<u>Texas, Temple</u> Grassland and forages research	1968 Plans	150,000		Initial construction completed in February 1974. Additional construction contract awarded May 1976, and construction is expected to be completed in the second quarter of fiscal year 1977.
	1971 Construction .	1,500,000		
	1973 Construction .	<u>500,000</u>		
	Total	2,150,000		
<u>West Virginia, Beckley</u> Soil and water conservation research	1972 Plans	70,000		Project being redesigned for a complete facility. Design expected to be completed in the third quarter of fiscal year 1977.
	1973 Construction .	700,000		
	1976 Redirection ..	<u>40,000 £/</u>		
	Total.....	810,000		
<u>West Virginia, Kearneyville</u> Fruit Crop Research	1973 Plans	200,000		Construction contract for lab-office and farm compound buildings awarded in first quarter of fiscal year 1977. Construction is expected to be completed in the second quarter of fiscal year 1978.
	1976 Construction .	<u>7,570,000</u>		
	Total.....	7,770,000		

Status of Construction Projects as of December 1976 - Cont.

Footnotes:

- a/ Funds provided from the Contingency Research Fund.
- b/ Since \$50,000 appropriated in 1970 for planning a Soil-Water-Plant Research Laboratory, Ithaca, New York, and Soil and Water Laboratory, Akron, Colorado, was insufficient to plan both of these facilities, the full amount was used at Akron, Colorado.
- c/ Due to cost escalation, an additional \$100,000 has been reprogrammed from unspent balances of completed construction projects for construction of the Akron, Colorado, facility.
- d/ Planning funds were not appropriated separately, but are included in the funds appropriated for construction.
- e/ In addition, the Department of Treasury will provide \$100,000 toward costs incurred in completing the project.
- f/ Due to cost escalation, funds for the Ithaca, New York, project have been redirected to Beckley, West Virginia, to provide sufficient funds to construct the facility.
- g/ Due to the inclusion of some pollution abatement facilities in the animal and laboratory project, which would otherwise have been constructed separately, funds were redirected from the air pollution abatement and sewage treatment project to provide funds for the complete facility as originally planned and designed for the animal and laboratory project. In addition, \$100,000 has been redirected into the Plum Island animal and laboratory project from regular program funding.

CONTINGENCY RESEARCH FUND

The Contingency Research Fund, established by Congress in fiscal year 1962, is designed to provide a ready source of funds to meet unforeseen and immediate research needs. Releases from the fund are generally made in situations where an emergency exists, or for special needs such as an unexpected scientific "break-through," or for new diseases or pest problems where it appears inadvisable to wait for consideration of a request for funds for the project in the regular budget process. In allocating funds, the procedure ordinarily is to make no commitments for allocations from the fund beyond the current year.

In fiscal year 1976, releases from the Contingency Research Fund were made for the following purposes:

1976 Obligations

Animal Production Efficiency Research:

American form of malignant catarrhal fever: cause, transmission and pathogenesis	30,000
Artificial insemination of broiler breeders	60,000
Determine phosphorus levels necessary for reproduction in beef cattle	35,300
Biological control of bovine brucellosis by stimulation of cell-mediated immunity	76,361
Eradication of horn flies, <u>Haematobia irritans</u> , from Molokai, Hawaii	25,000
Field testing of coyote repellent	14,524
Pathogenesis, epidemiology, and control of pseudorabies	50,000
Research to determine sources of infection and potential methods of controlling ornithosis outbreaks in turkeys	40,000
Control of Alfombrilla, a Mexican broad-leaf flowering plant highly toxic to livestock	2,442

Crop Production Efficiency Research:

Control of Alfombrilla, a Mexican broad-leaf flowering plant highly toxic to livestock	9,962
Bacterial blight of wheat-epidemiology etiology, and genetic resistance	5,500
Develop methods for control of the peach tree borer and the lesser peach tree borer	43,234
Implementation of management program for cotton insects utilizing <u>Heliothis</u> and plant bug resistant varieties	25,661
Large-scale field evaluation of insect growth regulators for control of imported fire ants	7,948
Research to prevent Mediterranean fruit fly from entering Mexico and U.S.A.	75,862
Screen ARS basic collection of pea accessions for presence of pea seed-borne mosaic virus	12,295

	<u>1976 Obligations</u>
Effects of increased ultraviolet radiation on agricultural production	53,966
Effect of resistant corn on the biology of the Southwestern corn borer	5,362
Increase wheat yield with fungicide growth regulator combination	8,000
Development and implementation of the organic solvent infusion method to treat seeds with minimal amounts of fungicides to control soilborne plant pathogens	25,000
Expansion of research on citrus <u>black fly</u> in support of Federal State control program	58,208
Identification of <u>Heliothis zea</u> sex pheromone	5,711
Research on DDT & substitute chemicals for control of <u>Heliothis</u> on cotton	23,261
Propagation of elm clones resistant to Dutch elm disease	6,508
Determine extent of insecticide resistance and identify sex pheromone(s) in corn rootworm	24,058
<u>Research on Conservation and Use of Land and Water Resources and Maintaining Environmental Quality:</u>	
Research on DDT and substitute chemicals for control of <u>Heliothis</u> on cotton	13,534
Develop methods to estimate soil/water content, evapotranspiration, and crop yields using thermal parameters	29,539
<u>Research on Watershed Development:</u>	
Research on DDT and substitute chemicals for control of <u>Heliothis</u> on cotton	4,902
<u>Processing, Storage and Distribution Efficiency Research:</u>	
Verification of the formation of cholesterol a-oxide during heat processing of egg liquids	49,872
Feasibility study for using solar energy to dry corn	10,023
Controlling tobacco insects on farm-stored tobacco	10,000
Determination of beef carcass quality	8,517
<u>Research to Improve Human Health and Safety:</u>	
Identification of <u>Heliothis zea</u> sex pheromone	7,605
Development of processing, storage and handling facilities for inactivation of mycotoxins in cereal grains by chemical treatment	40,525

1976 Obligations

Food and Nutrition Research:

Survey of home-canning practices	<u>24,300</u>
Total, 1976 Obligations	922,980
Unobligated balance	<u>77,020</u>
Total available 1976 Contingency Research Fund	<u>1,000,000</u>

Current Activities. As of December 1976, a total of \$289,500 has been approved for release from the Contingency Research Fund in FY 1977.

1977 Estimated
Obligations

Animal Production Efficiency Research:

Development of Swormlure-2 for screwworm control and suppression	\$ 50,000
Determine presence of bluetongue virus in reproductive organs of cattle	25,000

Crop Production Efficiency Research:

Development of new control technology for citrus blackfly ..	90,000
<u>Heliothis zea</u> sex pheromone research	24,500
Intensified research to develop practical applications for Japanese beetle synthetic female sex pheromone	15,000

Research on Conservation and Use of Land and Water Resources
and Maintaining Environmental Quality:

Evaluate safety and environmental effects of Dimilin insecticide	35,000
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Research to Improve Human Health and Safety:

Toxicity studies on ammoniated aflatoxin-contaminated corn in laying hens	<u>50,000</u>
Total, 1977 approved for release from the Contingency Research Fund	289,500
Balance to be allocated prior to September 30, 1977	<u>710,500</u>
Total available, 1977 Contingency Research Fund	<u>\$1,000,000</u>

STATEMENT OF OBLIGATIONS AND MAN-YEARS
BY LOCATION

Location	Actual 1976		Estimated 1977		Estimated 1978	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
ALABAMA, Auburn	\$1,403,818	58	\$1,663,500	61	\$1,611,800	61
ALASKA, Palmer	448,180	9	482,600	9	482,900	9
ARIZONA						
Flagstaff	143,143	6	93,100	4	93,200	4
Mesa	164,252	7	169,800	7	- -	- -
Phoenix	2,701,970	110	2,753,700	116	2,815,200	118
Tucson	2,097,080	87	2,236,800	87	2,311,800	88
Total	5,106,445	210	5,253,400	214	5,220,200	210
ARKANSAS, Stuttgart	182,226	2	150,900	2	151,200	2
CALIFORNIA						
Albany	11,646,530	423	12,673,700	444	12,784,900	444
Brawley	686,011	32	736,300	31	737,900	31
Davis	458,509	14	610,800	17	611,200	17
Fresno	1,614,304	58	1,701,600	61	1,672,300	61
Indio	214,308	11	239,900	12	230,000	12
Pasadena	490,749	16	533,600	16	503,900	16
Riverside	1,710,653	60	1,946,800	64	1,952,200	67
Salinas	716,572	32	793,100	33	783,100	33
Shafter	613,170	24	559,200	20	560,200	20
Total	18,150,806	670	19,795,000	698	19,835,700	701
COLORADO						
Akron	258,035	9	215,100	9	210,500	9
Denver	1,146,791	41	1,185,100	44	1,188,000	44
Fort Collins	2,283,396	86	2,574,700	100	2,548,900	100
Total	3,688,222	136	3,974,900	153	3,947,400	153
DISTRICT OF COLUMBIA						
Program	1,511,157	76	1,608,900	89	1,587,400	89
Headquarters						
Agency Management Services	19,876,293	551	22,076,500	542	22,632,800	542
Centrally Financed Programs	1,472,501	5	11,417,300	5	14,105,100	5
Repairs and Maintenance ...	- -	- -	- -	- -	7,216,000	- -
Subtotal	21,348,794	556	33,493,800	547	42,953,900	547
Total	22,859,951	632	35,102,700	636	45,541,300	636
DELAWARE						
Georgetown	234,776	8	263,100	10	257,300	10
Newark	266,621	12	293,800	12	294,100	12
Total	501,397	20	556,900	22	551,400	22
FLORIDA						
Belle Glade	139,773	5	150,400	6	151,700	6
Bradenton	43,061	1	39,000	1	39,100	1
Brooksville	176,916	3	149,500	3	141,900	3
Canal Point	337,913	17	433,300	15	346,500	15
Fort Lauderdale	70,309	2	103,400	3	103,500	3
Gainesville	3,689,539	130	4,436,700	139	4,455,900	139
Lake Alfred	96,626	4	102,400	5	102,500	5

STATEMENT OF OBLIGATIONS AND MAN-YEARS
BY LOCATION

Location	Actual 1976		Estimated 1977		Estimated 1978	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
FLORIDA (continued)						
Miami	\$553,288	25	\$666,100	27	\$791,900	27
Orlando	1,765,192	71	1,862,300	67	1,950,100	67
Winter Haven	571,837	24	585,400	23	574,800	23
Total	7,444,454	282	8,528,500	289	8,657,900	289
GEORGIA						
Athens	5,526,329	226	5,876,600	262	6,043,500	262
Byron	1,240,496	58	1,319,500	62	1,522,300	62
Dawson	484,383	24	520,700	23	519,900	23
Experiment	210,318	5	228,200	6	228,400	6
Savannah	1,565,634	72	1,799,800	76	1,793,400	76
Tifton	2,623,013	105	2,816,400	100	3,110,700	100
Watkinsville	814,524	33	1,017,300	38	1,080,400	38
Total	12,464,697	523	13,578,500	567	14,298,600	567
HAWAII						
Hilo	236,184	10	245,500	5	246,600	5
Honolulu	777,949	28	994,300	26	994,800	26
Total	1,014,133	38	1,239,800	31	1,241,400	31
IDAHO						
Aberdeen	212,054	5	277,300	7	277,500	7
Boise	425,888	19	486,500	19	490,900	19
Dubois	673,379	16	729,700	20	738,000	20
Kimberly (Twin Falls)	1,106,046	49	1,250,300	50	1,260,300	50
Total	2,417,367	89	2,743,800	96	2,766,700	96
ILLINOIS						
Chicago	136,995	4	139,600	4	139,700	4
Peoria	12,036,503	465	12,292,000	455	12,117,000	455
Urbana	1,305,686	41	1,370,900	46	1,357,000	46
Total	13,479,184	510	13,802,500	505	13,613,700	505
INDIANA						
Lafayette	1,126,277	33	1,412,800	37	1,410,100	37
Vincennes	195,997	8	214,100	8	209,300	8
Total	1,322,274	41	1,626,900	45	1,619,400	45
IOWA						
Ames	7,445,049	296	8,395,800	304	8,360,300	304
Ankeny	302,525	10	332,500	8	332,900	8
Total	7,747,574	306	8,728,300	312	8,693,200	312
KANSAS, Manhattan	2,090,246	72	2,503,500	71	2,564,400	71
KENTUCKY, Lexington	609,292	28	646,400	28	723,600	28
LOUISIANA						
Baton Rouge	1,058,368	38	1,125,400	47	1,118,800	47
Crowley	67,224	2	48,400	2	48,500	2
Houma	680,105	28	725,600	32	722,700	32
Jeanerette	113,254	4	147,300	4	119,500	4

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

Location	Actual 1976		Estimated 1977		Estimated 1978	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
LOUISIANA (continued)						
Lake Charles	\$183,987	7	\$254,900	7	\$196,200	7
New Orleans	13,286,262	479	12,989,000	500	13,086,600	500
Total	15,389,200	558	15,290,600	592	15,292,300	592
MAINE, Orono	426,317	14	407,300	17	407,500	17
MARYLAND						
Beltsville	39,329,532	1,620	44,242,100	1,723	44,862,800	1,723
Frederick	1,188,300	39	1,412,100	41	1,401,200	41
Glenn Dale	240,158	12	324,700	12	264,700	12
Hyattsville	1,587,060	76	4,706,000	89	4,708,200	89
Total	42,345,050	1,747	50,684,900	1,865	51,236,900	1,865
MICHIGAN, East Lansing	1,627,292	66	1,912,700	72	1,866,800	72
MINNESOTA						
East Grand Forks	286,212	9	306,800	10	290,300	10
Minneapolis	115,168	4	132,500	4	132,600	4
Morris	789,954	37	856,000	38	833,000	38
St. Paul	1,015,545	31	1,215,700	38	1,386,300	38
Total	2,206,879	81	2,511,000	90	2,642,200	90
MISSISSIPPI						
Gulfport	156,641	7	248,500	8	248,800	8
Meridian	213,835	11	307,600	11	307,800	11
Oxford	1,379,479	58	1,429,100	59	1,393,600	59
Poplarville	80,998	3	85,000	3	73,100	3
Mississippi State	2,817,107	94	2,989,400	107	3,052,300	107
Stoneville	3,780,242	180	4,036,800	157	4,011,600	157
Total	8,428,302	353	9,096,400	345	9,087,200	345
MISSOURI, Columbia	2,414,461	93	2,642,700	96	2,724,900	96
MONTANA						
Bozeman	509,000	16	485,800	17	528,600	17
Miles City	552,338	9	893,800	11	744,600	11
Sidney	616,470	25	682,200	28	677,800	28
Total	1,677,808	50	2,061,800	56	1,951,000	56
NEBRASKA						
Clay Center	4,541,737	48	5,164,900	64	5,089,300	64
Lincoln	1,013,417	33	1,054,000	32	1,055,000	32
Total	5,555,154	81	6,218,900	96	6,144,300	96
NEVADA, Reno	303,540	11	445,900	12	467,400	12
NEW JERSEY, New Brunswick ...	239,638	8	359,700	10	360,000	10
NEW MEXICO						
Albuquerque	214,529	8	219,600	8	- -	- -
Las Cruces	825,922	27	821,500	32	820,200	32
Total	1,040,451	35	1,041,100	40	820,200	32

STATEMENT OF OBLIGATIONS AND MAN-YEARS

BY LOCATION

Location	Actual 1976		Estimated 1977		Estimated 1978	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
NEW YORK						
Geneva	122,140	4	157,200	6	157,300	6
Ithaca	1,416,815	45	1,750,600	44	1,657,200	44
Plum Island	7,535,918	323	8,969,400	346	8,746,900	346
Total	9,074,873	372	10,877,200	396	10,561,400	396
NORTH CAROLINA						
Oxford	828,943	38	904,900	35	871,700	35
Raleigh	1,562,252	51	2,089,200	56	2,258,800	56
Total	2,391,195	89	2,994,100	91	3,130,500	91
NORTH DAKOTA						
Fargo	3,303,096	122	3,618,900	123	3,695,500	123
Grand Forks	1,375,012	23	1,390,900	38	1,396,600	38
Mandan	1,149,881	46	1,468,600	48	1,432,800	48
Total	5,827,989	191	6,478,400	209	6,524,900	209
OHIO						
Columbus	- -	- -	162,300	4	162,400	4
Coshocton	562,170	18	493,200	18	468,200	18
Delaware	479,013	14	394,400	15	395,600	15
Wooster	761,328	33	820,500	33	818,700	33
Total	1,802,511	65	1,870,400	70	1,844,900	70
OKLAHOMA						
Chickasha	639,578	37	742,300	37	742,900	37
Durant	546,303	23	566,100	21	566,700	21
El Reno	351,115	5	327,400	7	291,600	7
Stillwater	527,470	18	738,400	22	824,000	22
Woodward	295,439	15	327,200	16	323,600	16
Total	2,359,905	98	2,701,400	103	2,748,800	103
OREGON						
Burns	74,760	2	75,500	2	75,600	2
Corvallis	1,091,651	38	1,139,900	42	1,360,900	42
Pendleton	492,545	11	546,200	21	546,400	21
Total	1,658,956	51	1,761,600	65	1,982,900	65
PENNSYLVANIA						
University Park	1,271,546	51	1,365,500	50	1,528,000	50
Wyndmoor	8,463,269	335	8,339,100	340	8,276,500	340
Total	9,734,815	386	9,704,600	390	9,804,500	390
SOUTH CAROLINA						
Charleston	708,291	36	787,000	35	787,100	35
Clemson	1,098,499	35	1,041,300	38	1,049,300	38
Florence	794,087	31	805,900	34	821,300	34
Total	2,600,877	102	2,634,200	107	2,657,700	107
SOUTH DAKOTA, Brookings-						
Madison	829,958	37	936,100	36	938,800	36

STATEMENT OF OBLIGATIONS AND MAN-YEARS
BY LOCATION

Location	Actual 1976		Estimated 1977		Estimated 1978	
	Dollars	Man-Years	Dollars	Man-Years	Dollars	Man-Years
TENNESSEE						
Jackson	\$75,672	3	\$94,900	4	\$95,900	4
Greenville	132,620	5	136,000	7	136,200	7
Knoxville	755,089	26	775,400	29	777,600	29
Lewisburg	84,284	4	87,200	4	87,300	4
Total	1,047,665	38	1,093,500	44	1,097,000	44
TEXAS						
Beaumont	268,522	12	373,300	12	375,200	12
Big Spring	105,895	4	164,800	5	156,200	5
Brownsville	1,050,232	52	1,183,400	45	1,124,300	45
Brownwood	245,969	9	301,300	12	303,000	12
Bushland	875,256	31	1,037,200	38	1,044,600	38
College Station	3,940,526	170	4,227,600	147	4,228,200	147
El Paso	49,740	2	47,800	2	47,900	2
Kerrville	1,216,914	58	1,492,300	52	1,699,000	60
Lubbock	622,386	25	659,900	25	668,400	25
Mission	663,685	19	686,600	17	688,100	17
Temple	1,074,971	25	1,481,300	46	1,464,000	46
Vernon (Chillicothe)	109,839	4	58,500	3	58,600	3
Weslaco	2,160,313	99	2,487,600	95	2,496,000	95
Total	12,384,248	510	14,201,600	499	14,353,500	507
UTAH, Logan	1,462,512	52	1,660,800	56	1,670,400	56
VIRGINIA						
Blacksburg	97,326	3	103,600	4	103,700	4
Richmond	131,288	5	144,300	5	144,400	5
Suffolk (Holland)	291,385	12	322,300	13	323,900	13
Total	519,999	20	570,200	22	572,000	22
WASHINGTON						
Prosser	845,036	35	907,400	37	965,800	37
Pullman	1,474,890	58	1,773,800	67	1,777,300	67
Puyallup	1,747	-	-	-	-	-
Wenatchee	539,461	21	582,100	21	582,500	21
Yakima	1,085,529	47	1,109,000	45	1,109,800	46
Total	3,946,663	161	4,372,300	170	4,435,400	171
WEST VIRGINIA, Morgantown ...	363,638	10	395,300	16	395,700	16
WISCONSIN, Madison	1,280,825	42	1,321,600	44	1,337,400	44
WYOMING						
Cheyenne	370,245	13	395,100	16	453,500	16
Laramie	218,795	7	295,400	11	295,600	11
Total	589,040	20	690,500	27	749,100	27
PUERTO RICO						
Mayaguez	615,415	38	752,400	39	904,600	39
Rio Piedras	229,233	7	298,300	9	299,700	9
Total	844,648	45	1,050,700	48	1,204,300	48
VIRGIN ISLANDS, St. Croix ...	177,949	12	202,200	10	195,600	10

[illegible]

Scientific Activities Overseas (Special Foreign Currency Program)

Appropriation Act, 1977 \$7,500,000
Budget Estimate, 1978 7,500,000

PROJECT STATEMENT
(on basis of appropriation)

Project	1976 Actual	1977 Estimate	Increase or Decrease	1978 Estimate
1. Market development research, Sec. 104(b)(1)	\$1,000,000	\$1,000,000	\$ - -	\$1,000,000
2. Agricultural and forestry research Sec. 104(b)(3) ..	5,850,000	5,700,000	-150,000	5,550,000
3. Translation and dissemi- nation of scientific publications, Sec. 104(b)(3)	650,000	800,000	+150,000	950,000
Total, appropriation	<u>7,500,000</u>	<u>7,500,000</u>	<u>- -</u>	<u>7,500,000</u>

The following statement reflects carryover into succeeding years of actual or estimated prior year balances and shows total actual or planned obligations.

PROJECT STATEMENT
(on basis of available funds)

Project	1976 Actual	1977 Estimate	Increase or Decrease	1978 Estimate
1. Market development research, Sec. 104(b)(1)	\$ 324,841	\$1,000,000	\$ - -	\$1,000,000
2. Agricultural and forestry research, Sec. 104(b)(3) .	6,431,597	6,702,930	-1,152,930	5,550,000
3. Translation and dissemi- nation of scientific publications Sec. 104(b)(3)	300,000	1,201,702	-251,702	950,000
Total, obligations	<u>7,056,438</u>	<u>8,904,632</u>	<u>-1,404,632</u>	<u>7,500,000</u>
Unobligated balance, start of year	-1,426,010	-1,404,632	+1,404,632	- -
Unobligated balance, end of year	<u>+1,869,572</u>	<u>- -</u>	<u>- -</u>	<u>- -</u>
Total, available or estimate ..	<u>7,500,000</u>	<u>7,500,000</u>	<u>- -</u>	<u>7,500,000</u>

EXPLANATION OF PROGRAM

Foreign currencies which the Treasury Department determines to be excess to the normal requirements of the United States are used for expenses of carrying out programs of the Department of Agriculture as authorized by law and described under sections 104(b) (1) and 104(b) (3) of the Agricultural Trade Development and Assistance Act of 1954, as amended. Research is carried on through agreements negotiated with research institutions and organizations in foreign countries. Countries currently participating in this program are Egypt, India, Pakistan, and Tunisia. The research must be of importance to American agriculture. It serves to preserve and expand existing markets and develop new ones for agricultural commodities. It provides for research supplementary to domestic programs on problems of farm, marketing, utilization, agricultural economics and human nutrition, and makes possible the conduct of research on exotic insect pests and diseases of plants and animals which could not be done in the United States. Specialized projects provide for the translation and dissemination of foreign language scientific publications.

STATUS OF THE SPECIAL FOREIGN CURRENCY RESEARCH PROGRAM (SFCRP)

In Fiscal year 1958, the Department initiated a research grant program abroad utilizing foreign currencies from the sale of surplus agricultural commodities under Title I of Public Law 480. Originally confined to market development research authorized by Section 104(b) (1) of P.L. 480, as amended, the program was subsequently expanded to include agricultural and forestry research under Section 104(b) (3) of the law, as amended. In fiscal year 1966, the authorization changed to permit the use of all excess currencies for work performed under the Special Foreign Currency Program. Activities sponsored fall into the following general areas:

1. Agricultural research, including research on plant and animal production; use and improvement of soil, water and air; and research on marketing, use and effects of agricultural products.
2. Forestry research, including research on the protection of forests from fires, diseases and insects; on methods and procedures for increasing the growth of managed forests, and on properties and uses of forest products.
3. Agricultural economics research, including farm and market economics research and foreign trade analysis.

Dollar-financed research in these areas is conducted by the Agricultural Research Service, the Forest Service, and the Economic Research Service in their respective areas of functional and subject-matter responsibilities. Research under this program is designed to complement and not to duplicate or displace the dollar-financed research activities of these agencies.

Within the Department, primary responsibility for administration of this program is assigned to the Agricultural Research Service. The activities are coordinated with operations in the Forest Service, Economic Research Service, and the Foreign Agricultural Service by the Director, International Programs Division, ARS. The Director coordinates development of broad policies for operations of the program and coordinates the activities of the various Department agencies in carrying out research financed by foreign currencies. Initial arrangements and budget clearances for the research in foreign countries are made through the Department of State as required by Executive Order 10900, Section 3(b) and (c), and through the Agricultural Attaches of the Foreign Agricultural Service of the Department.

Prior to executing any research agreement with a foreign institution, the Department again consults with the Agricultural Attaches and Heads of Missions to insure that the proposed projects would be consonant with the foreign policy of the United States.

Care is exercised to make certain that research projects undertaken benefit American agriculture and do not develop undesirable competition for American agricultural products abroad. Careful attention is given to the type of institution conducting research under this program to make certain it has the facilities, equipment, and personnel to carry out sound and productive research. Because of these high standards, about 58 percent of the proposals received from foreign institutions have been rejected by the Department; 41 percent of the proposals have been accepted, and the agreements have been executed or are awaiting execution. Final determination has not yet been made on acceptance or rejection of the remaining 1 percent.

U.S. research priorities, as well as foreign country participant priorities, are constantly updated and publicized through personal contacts and written communications. Consequently, the bulk of the proposals currently submitted for consideration are generally of the highest interest to U.S. agriculture.

Selected Examples of Recent Progress: Through September 30, 1976, a total of 1,705 research agreements have been obligated with foreign research institutions. In fiscal year 1976, 64 new agreements were obligated. Agreements vary in total amount for the life of the project from approximately \$12,000 to slightly over \$475,000 dollar equivalent. Recent examples of research progress under these agreements follow:

1. New Techniques Found for Producing Virus-Free Citrus Seedlings. One of the research frontiers in plant science is producing new plants from old through tissue culture techniques. Research in India has produced virus-free citrus plants from infected stocks and is accelerating multiplication of virus-free rootstocks for citrus orchards.
2. Nutritious Low-Cost Meals Developed for Young Children. Studies in India demonstrated ways of supplementing cereals to supply sufficient protein and other nutrients or maintaining adequate nutrition without adding large amounts of animal products. The diets formulated in these studies could be modified using foods available in the United States or in any other country to provide adequate nutrition at low cost.
3. Yugoslavia Blackberries have Potential for U.S. Research in Yugoslavia identified four blackberry lines with outstanding hardiness and resistance to pests and diseases. Another line was found to be outstanding in producing multiple berry clusters. Use of the native Yugoslavian blackberry material has been initiated in the U.S. to develop the type of coldhardiness required for the mid-Atlantic States.
4. New Techniques Developed for Crop Improvement. Scientists in Israel working with peanuts developed techniques for detecting natural-occurring differences in the non-chromosomal inheritance of plant cells. They also discovered several new methods for producing these unique mutations. This project has generated some 51 cross-combinations that are now being used to improve domestic peanuts and the techniques are being applied in breeding improved corn and pearl millet.
5. Biological Control Found for Tea Scale Insect. The tea scale is a serious pest of ornamental plants in the South, and of mango orchards in Florida. A small wasp which parasitizes this scale insect was imported into Florida from India. Information after the first release of the parasite in the Gainesville, Florida, area have confirmed its potential as an effective method for control of the scale insect.
6. New Control Developed for Khapra Beetle. The khapra beetle is a major destroyer of stored grains and food products in many countries. Research in Pakistan has established several methods that improve the effectiveness of eight insecticides and combinations of insecticides for controlling khapra beetle. Results from this project help lessen the hazards of costly reinfestations of stored grain in the U.S.

7. Polish Researchers Demonstrate Efficiency of Ultra Low-Volume (ULV) Spray Systems to Protect Apple Trees. With the (ULV) system, apple trees are protected using half as much pesticide. With low volume requirements, the likelihood of environmental hazards are reduced. The use of lighter equipment causes less soil compaction. Also hazards for the operators are reduced since mixing and washing stations at the orchards are eliminated.

Special Foreign Currency Program
Research Proposals and Agreements by Subject Matter
(Cumulative: Through September 30, 1976)

	Number of Proposals				Total Number of Agreements Obligated		Total Number of Agreements Currently Active	
	Received	Rejected	Awaiting Modification Negotiation or Review	Approved (Proposals) Awaiting Obligation	Number	Dollar Equivalent	Number	Dollar Equivalent
Agricultural Research Service	3,958	2,310	57	160	1,431	\$ 95,267,938	324	\$28,906,667
Forestry Research	499	250	6	17	226	14,926,311	53	5,162,802
Agricultural Economics Research	163	108	7	4	44	2,460,664	9	947,220
Statistical Reporting Service	3	2	-	-	1	32,073	-	- 1,467
Animal & Plant Health Ins. Service	1	-	-	-	1	136,806	1	136,806
TOTALS	4,624	2,670	70	181	1,703	\$112,823,792	387	\$35,152,028

Obligations, Expenditures and Conversions of Foreign Currencies

Obligations: Through September 30, 1976, a total of \$120,287,021 (including \$5,068,131 for administrative expenses) has been obligated for activities under the Special Foreign Currency Program. In fiscal year 1977, an additional \$8,904,632 will be used. These obligations are summarized as follows:

Cumulative Obligations through F.Y. 1977
(Dollars in Thousands)

Fiscal Year	Market Development Research (Sec. 104(b)(1))	Agricultural and Forestry Research (Sec. 104(b)(3))	Translations of Publications and Scientific Cooperation, Executive Office of the President a/	Total
1958	\$ 371.5	\$ -	\$ -	\$ 371.5
1959	1,651.8	-	1.7	1,653.5
1960	2,230.5	-	793.2	3,023.7
1961	1,893.2	-	1,565.2	5,290.8
1962	2,859.0	1,832.4	595.8	8,749.4
1963	2,566.3	5,294.6	248.6	7,815.6
1964	3,214.8	5,000.7	555.5	8,236.7
1965	3,485.8	4,466.4	72.2	8,966.1
1966	703.7	5,408.1	-199.5	4,381.6
1967	1,620.6	3,877.4	114.5	9,688.3
1968	991.9	7,953.2	- 44.1	7,264.8
1969	971.9	6,317.0	-	5,705.1
1970	790.5	4,733.2	-	4,866.5
1971	654.0	4,076.0	-	4,825.8
1972	840.4	5,853.6	-	6,694.0
1973	1,026.1	7,995.8	-	9,021.9
1974	195.9	7,551.5	-	7,747.4
1975	349.2	6,263.6	-	6,612.8
1976 b/	326.6	9,044.7	-	9,371.3
1977 (Est'd.)	1,000.0	7,904.6	-	8,904.6
Total	\$27,743.7	\$97,744.6	\$3,703.1	\$129,191.4

a/ This fund merged with Special Foreign Currency Program by the Department of Agriculture and Related Agencies Appropriation Act, 1969. b/ Includes Transitional Quarter.

The following tables present a more detailed picture of the \$9,371.3 obligated in 1976 and the \$8,904.6 estimated to be obligated in 1977 for the Special Foreign Currency Program.

Special Foreign Currency Program, Estimated FY 1977 Obligations
(In Thousands)

Country	Market Development Research Section 104(b) (1)		Agricultural and Forestry Research Section 104(b) (3)		
	Agricultural Research	Agri- cultural Research	Agri- cultural Economics Research	Forestry Research	Total
Egypt	\$ 515.0	\$1,962.9	\$301.0	\$ - -	\$2,778.9
India	200.0	960.0	- -	215.0	1,375.0
Italy	25.0	15.0	- -	- -	40.0
Pakistan	260.0	1,935.0	- -	65.0	2,260.0
Poland	- -	934.0	- -	166.0	1,100.0
Tunisia	- -	149.0	- -	- -	149.0
Total	\$1,000.0	\$5,955.9	\$301.0	\$446.0	\$7,702.9
Transfer to National Science Foundation for translation to scientific publications					1,201.7
GRAND TOTAL					\$8,904.6

Expenditures: Expenditures of foreign currencies, from the inception of the program through September 30, 1976, totaled \$101,093,015. In addition, the Department plans to expend \$9,067,000 in fiscal year 1977. These expenditures may be summarized as follows:

Cumulative Expenditures through F.Y. 1977
(In Thousands)

<u>Fiscal Year</u>	<u>Market Development Research</u>	<u>Agricultural and Forestry Research</u>	<u>Translation of Publications and Scientific Cooperation Executive Office of the President a/</u>	<u>Total</u>
1959	\$ 195.1	\$ -	\$ 0.1	\$ 195.2
1960	654.6	-	75.1	729.7
1961	1,254.9	350.2	495.2	2,100.3
1962	1,735.8	1,351.8	425.6	3,513.2
1963	2,136.8	2,071.7	590.9	4,799.4
1964	2,292.9	2,514.9	655.5	5,463.3
1965	2,816.3	3,724.6	616.0	7,156.9
1966	2,435.2	4,113.9	211.2	6,760.3
1967	2,487.0	4,754.6	224.7	7,466.3
1968	1,951.0	5,028.8	200.5	7,180.3
1969	1,598.9	5,454.6	-	7,053.5
1970	1,092.6	4,863.4	-	5,956.0
1971	955.9	4,753.1	-	5,709.0
1972	884.2	5,337.3	-	6,221.5
1973	704.1	4,644.0	-	5,348.1
1974	731.2	7,052.9	-	7,784.1
1975	783.6	6,491.7	-	7,275.3
1976 b/	902.9	9,477.8	-	10,380.7
1977 (est'd.)	901.8	8,165.2	-	9,067.0
Total	\$26,514.8	\$80,150.5	\$3,494.8	\$110,160.1

Cumulative Expenditures through F.Y. 1977
(In Thousands)

Conversions: As of September 30, 1976, the Department had converted a total of \$4,833,448 of foreign currencies as follows:

<u>Fiscal Year</u>	<u>(Dollars in Thousands)</u>
1961	\$ 770.0
1962	1,432.0
1963	1,910.1
1964	721.3
Total	<u>\$ 4,833.4</u>

a/ This fund merged with Special Foreign Currency Program by the Department of Agriculture and Related Agencies Appropriation Act, 1969, are included in the preceding table.

b/ Includes Transitional Quarter.

Passenger Motor Vehicles

The 1978 Budget Estimate does not include any purchase of additional passenger motor vehicles. A total of 94 vehicles will be replaced.

Replacements

Replacements would be made of 94 of the 472 (including 8 buses) passenger motor vehicles operated at field stations engaged in research. These vehicles are used in travel where no public transportation is available, such as to farms, ranches, cooperating experiment stations, etc., and in travel to remote sections of large stations. They are essential for collecting experimental data and materials necessary for facilitating research work.

It is estimated that all of the 94 passenger vehicles to be replaced will have mileage of more than 60,000 or be 7 or more years old.

Age and Mileage Data for passenger-carrying vehicles on hand as of June 30, 1976:

<u>Age-Year</u> <u>Model</u>	<u>Number of</u> <u>Vehicles */</u>	<u>Percent</u> <u>of Total</u>	<u>Lifetime</u> <u>Mileage</u> (thousands)	<u>Number of</u> <u>Vehicles */</u>	<u>Percent</u> <u>of Total</u>
1971	238	52	80-100	8	2
1972	23	5	60-80	57	12
1973	89	19	40-60	148	32
1974	64	14	20-40	152	33
1975	27	6	Under 20	95	21
1976	19	4			
TOTAL	460	100		460	100

*/ Excludes 5 vehicles used in foreign countries, and 8 buses.

Aircraft

Replacements

The one replacement plane would be one designed specifically for agricultural work and would be used by technicians in investigating and demonstrating the use of special equipment for suppression of destructive insects attacking crops. Replacements will be made by purchase or from surplus sources. Planes rapidly become obsolete and uneconomical to repair and are subject to many mishaps. Replacement will not be made, however, if it is found practical and economically feasible to retain the present equipment.

Additions

Objective: To obtain one additional aircraft from Animal and Plant Health Inspection Service (APHIS) without cost to be located at College Station, Texas, to conduct research on experimental spray equipment and aerial application of dry pesticides, seeds and dry fertilizers.

Need for Increase: Research is necessary for applying dry pesticides, seeds and dry fertilizers as well as developmental research for more efficient spray-type equipment for practical usage. Current aerial application is often unreliable and uneven distribution of materials occur. Due to spray drift and uneven distribution of materials, average efficiency of application is about 25 percent. Aerial application of dry materials will improve efficiency and reduce atmospheric pollution. These methods can provide a 50 percent savings in pesticides for insect and weed control and result in a 200 percent increase in acreage treated annually for control of weeds and brushes by 1985.

Plan of Work: The Piper Pawnee agricultural aircraft is excess to the needs of APHIS and is available for transfer to ARS at no cost. ARS is presently using the aircraft on a loan basis for research on equipment for aerial application of dry pest control materials, seeds and dry fertilizers.

Initial research will concern engineering development of equipment to uniformly distribute dry materials such as granules, pellets, and seeds. A system for producing electrostatically-charged uniform droplet sprays will also be developed for the aircraft. Ensuing work will include field evaluation by a multi-disciplinary team of engineers and biological scientists. Effectiveness of various application methods and materials, as affected by physiological, soil, atmosphere and other parameters, will be studied for specific pest control problems. This work will be coordinated with aerial application research at Yakima, Washington, rangeland forage research at Temple, Texas, and other pest control research at College Station, Texas.

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

Purpose Statement

The Animal and Plant Health Inspection Service was established by the Secretary of Agriculture on April 2, 1972, under the authority of the Reorganization Plan No. 2 of 1953, and other authorities. The major objectives of the Service are to protect consumers from unwholesome meat and poultry products and to protect the animal and plant resources of the Nation from diseases and pests. These objectives are carried out under three major areas of activity as follows:

1. Meat and poultry inspection: The Agency inspects meat and poultry products in plants shipping in interstate and foreign commerce, reviews inspection systems in foreign establishments producing for export to the United States, and provides technical and financial assistance to States to maintain their meat and poultry inspection programs.
2. Animal and plant disease and pest control: Survey, diagnostic and quarantine activities are carried out to control, eradicate, or prevent the introduction of animal and plant diseases and pests. Control and eradication programs are conducted to combat existing diseases and pests.
3. Other Regulatory activities: Development of standards for, and the licensing and testing of veterinary biologicals to ensure their safety and effectiveness, and the inspection of certain establishments which handle animals intended for research, exhibition and pet purposes, as defined by law, to insure their humane treatment are other regulatory activities performed by the Agency.

The Service maintains central offices in the Washington metropolitan area. However, most of the Service's work is conducted at numerous field locations, meat and poultry plants, and at points of entry in the fifty states, Puerto Rico, and the Virgin Islands. Much of the work is conducted in cooperation with State and local agencies, private groups, and foreign governments. As of September 30, 1976, there were 14,092 permanent full time employees including 916 in the central office.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

	Actual 1976	Man- Years	Estimated Available, 1977	Man- Years	Budget Estimate 1978	Man- Years
	Amount		Amount		Amount	
Animal and Plant Health:						
Inspection Service:			b/			
Appropriation a/.....	\$377,646,000	14,643	\$416,057,000	15,677	\$431,319,000	15,833
Obligations under						
other USDA approp-						
priations:						
Agricultural Market-						
ing Service for						
meat grading.....	166,811	2	60,000	1	60,000	1
Agricultural						
Research Service						
to develop mass						
rearing procedures						
and perform field						
evaluations in the						
gypsy moth research:						
program.....	331,256	5	342,300	4	334,000	4
Miscellaneous						
reimbursements.....	51,496	1	42,500	1	42,500	1
Total, Other USDA						
Appropriations.....	549,563	8	444,800	6	436,500	6
Total, Agriculture						
Appropriations.....	378,195,563	14,651	416,301,800	15,683	431,755,500	15,839
Animal Quarantine						
Station.....	100,000	- -	327,000	- -	- -	- -
Other Federal Funds....	906,400	6	1,131,900	9	1,142,200	9
Non-Federal Funds.....	30,576,762	164	35,222,300	166	35,496,300	166
Total, Animal and						
Plant Health						
Inspection Service....	409,778,725	14,821	453,183,000	15,858	468,394,000	16,014

End-of-Year Employment: c/	1976 Actual	1977 Estimated	1978 Estimated
Permanent Full-time...	14,028	14,050	14,224
Other.....	2,180	1,920	1,920
Total.....	<u>16,208</u>	<u>15,970</u>	<u>16,144</u>

a/ Includes \$2,550,000 in FY 1976 and \$833,000 in FY 1977 and \$4,460,000 in FY 1978 for repayment with interest to the Commodity Credit Corporation of funds advanced under the emergency authority of the Secretary (21 U.S.C. 129). The amounts obligated under the emergency authority from funds advanced from CCC not included in the above were \$7,485,726 in FY 1976.

b/ Includes proposed supplemental for increased pay costs of \$12,473,000.

c/ Excludes 187 disadvantaged youth and public service trainees in FY 1976 and 186 similar employees in FY 1977 and FY 1978.

(a) Animal and Plant Health Inspection Service

Appropriation Act, 1977.....	\$403,667,000
Budget Estimate, 1978.....	<u>431,319,000</u>
Increase in Appropriation.....	+27,652,000

Adjustments in 1977:

Appropriation Act, 1977.....	\$403,667,000
Transfer to Statistical Reporting Service.....	<u>-83,000</u>
1977 Supplemental Appropriation for Pay Costs.....	+12,473,000
Adjusted base for 1978.....	416,057,000
Budget Estimate, 1978.....	<u>431,319,000</u>
Increase over adjusted 1977.....	<u>+15,262,000</u>

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	1977 <u>Estimate</u>	Increase or <u>Decrease</u>	1978 <u>Estimate</u>
Citrus blackfly.....\$	2,643,000 <u>a/</u>	+ \$ 559,000	\$ 3,202,000
Mediterranean fruit fly.....	- - <u>b/</u>	+ 5,103,000	5,103,000
Agricultural quarantine inspection.....	22,998,000	+ 508,000	23,506,000
Animal care.....	2,607,000	+ 208,000	2,815,000
Brucellosis eradication.....	40,511,000	+ 5,820,000	46,331,000
Cattle fever ticks.....	2,586,000	+ 762,000	3,348,000
Import-export inspection.....	4,758,000	+ 1,581,000	6,339,000
Miscellaneous animal diseases and pests.....	2,668,000	+ 1,341,000	4,009,000
Screwworm.....	29,098,000	+ 4,560,000	33,658,000
Veterinary biologics.....	5,079,000	+ 1,145,000	6,224,000
Barberry eradication.....	925,000	- 470,000	455,000
Imported fire ant.....	9,133,000	- 8,600,000	533,000
Miscellaneous plant diseases and pests.....	925,000 <u>c/</u>	- 32,000	893,000
Construction of facilities...	3,800,000	- 3,800,000	- -
Repayment to CCC.....	333,000	+ 4,127,000	4,460,000
GSA space costs.....	3,914,000	+ 1,541,000	5,455,000
Annualization of the pay cost increase effective in FY 1977.....	12,473,000	+ 294,000	12,767,000
Working capital fund.....	(4,622,000)	+ 615,000	615,000
All other.....	271,606,000	- -	271,606,000
Total available.....	<u>416,057,000</u>	<u>+ 15,262,000</u>	<u>431,319,000</u>

a/ Excludes proposed supplemental of \$559,000.

b/ Does not include a proposed reprogramming of \$4.1 million in FY 1977 from imported fire ant to Mediterranean fruit fly.

c/ Excludes proposed supplemental of \$482,000.

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1976	1977 (Estimate)	Increase or Decrease	1978 (Estimate)
1. Meat and poultry inspection:				
(a) Slaughter operations.....	\$113,476,163	\$128,472,000	+\$ 925,000	\$129,397,000
(b) Processing operations.....	54,545,929	61,697,000	+	62,141,000
(c) Export-import inspection..	2,692,017	3,048,000	+	3,070,000
(d) Compliance.....	2,933,318	3,323,000	+	3,347,000
(e) Scientific and technical..	13,359,902	15,112,000	+	15,221,000
(f) Grants to aid compliance and inspection.....	28,889,010	28,905,000	- -	28,905,000
Total, Meat and poultry inspection:	215,896,000	240,557,000	+\$ 1,524,000(1)	242,081,000
2. Plant disease and pest control:				
(a) Plant protection:				
(1) Barberry eradication..	1,007,970	963,000	- 462,000	501,000
(2) Boll weevil.....	1,051,149	2,802,000	+	2,813,000
(3) Burrowing nematode....	372,374	- -	- -	- -
(4) Cereal leaf beetle.....	605,300	652,000	+	661,000
(5) Citrus blackfly.....	1,057,476	2,786,000	+	3,356,000
(6) Golden nematode.....	852,903	898,000	+	904,000
(7) Grasshopper and Mormon cricket.....	2,695,921	1,330,000	+	1,341,000
(8) Gypsy moth.....	2,494,090	2,679,000	+	2,699,000
(9) Imported fire ant.....	8,545,473	9,487,000	- 8,528,000	959,000
(10) Japanese beetle.....	814,386	- -	- -	- -
(11) Mediterranean fruit fly.....	- -	- -	+	5,103,000
(12) Mexican fruit fly.....	447,850	664,000	+	669,000
(13) Miscellaneous plant diseases and pests....	221,947	1,024,000	- 10,000	1,014,000
(14) Pest detection.....	1,478,189	2,614,000	+	2,628,000
(15) Pink bollworm.....	2,642,012	3,118,000	+	3,145,000
(16) White-fringed beetle..	150,458	- -	- -	- -
(17) Witchweed.....	3,479,011	4,093,000	+	4,121,000
Total, Plant protection.....	27,916,509	33,110,000	- 3,196,000	29,914,000
(b) Agricultural quarantine inspection.....	24,026,445	24,699,000	+	25,410,000
Total, Plant disease and pest control.....	51,942,954	57,809,000	- 2,485,000(2)	55,324,000
3. Animal disease and pest control:				
(a) Animal health:				
(1) Animal care.....	1,927,507	2,650,000	+	2,873,000
(2) Brucellosis eradication:	36,834,164	41,524,000	+	47,525,000
(3) Cattle ticks.....	1,923,344	2,685,000	+	3,458,000
(4) Emergency programs.....	1,716,748	1,952,000	+	1,963,000
(5) Foot-and-mouth disease (Darien Gap).....	2,157,383	2,014,000	+	2,017,000
(6) Hog cholera eradication:	4,312,627	4,428,000	+	4,464,000
(7) Horse protection.....	151,389	100,000	- -	100,000
(8) Import-export inspection	3,420,643	4,960,000	+	6,560,000
(9) Interstate inspection of livestock.....	6,560,464	3,779,000	+	3,795,000
(10) Miscellaneous animal diseases and pests....	1,352,999	2,789,000	+	4,147,000
(11) Poultry diseases.....	1,635,935	918,000	+	923,000
(12) Scabies eradication....	1,479,514	1,780,000	+	1,789,000
(13) Screwworm.....	23,716,232	29,768,000	+	34,420,000
(14) Tuberculosis eradication	4,657,932	6,434,000	+	6,471,000
(15) Repayment to CCC.....	2,550,000	333,000	+	4,460,000
Total, Animal health.....	94,396,881	106,114,000	+	124,965,000

Project	1976	1977 (Estimate)	Increase or Decrease	1978 (Estimate)
(b) Veterinary biologics.....	\$ 4,945,965	\$ 5,277,000	+\$ 1,172,000	\$ 6,449,000
Total, Animal disease and pest control.....	99,342,846	111,391,000	+ 20,023,000(3)	131,414,000
4. Construction of facilities.....	- -	3,800,000	- 3,800,000(4)	- -
5. Contingencies:				
(a) Plant disease and pest control.....	1,500,000	1,250,000	- -	1,250,000
(b) Animal disease and pest control.....	140,000	1,250,000	- -	1,250,000
Total, Contingencies.....	1,640,000	2,500,000	- -	2,500,000
Unobligated balance	8,823,861	- -	- -	- -
Total, Available or estimate - appropriated funds.....	377,646,000	416,057,000	+ 15,262,000	431,319,000
6. Advances and reimbursements:				
(a) Meat and poultry inspection:	24,623,565	28,345,000	+ 27,000	28,372,000
(b) Plant disease and pest control.....	5,213,738	5,515,000	+ 4,000	5,519,000
(c) Animal disease and pest control.....	485,171	459,000	+ 1,000	460,000
Total, Advances and reimbursements:	30,322,474	34,319,000	+ 32,000	34,351,000
Total, Available or estimate.....	407,968,474	450,376,000	+ 15,294,000	465,670,000
Transfer to Statistical Reporting Service.....	+83,000	+ 83,000	- 83,000	- -
Proposed Supplemental for pay increase costs.....	- -	- 12,473,000	+ 12,473,000	- -
Receipts from advances and reimbursements.....	- 30,322,474	- 34,319,000	- 32,000	- 34,351,000
Total, Appropriation.....	377,729,000	403,667,000	+ 27,652,000	431,319,000

a/ Excludes proposed supplemental of \$559,000.

b/ Excludes proposed supplemental of \$482,000.

EXPLANATION OF PROGRAM

The Appropriation "Animal and Plant Health Inspection Service" funds the following activities.

1. Meat and poultry inspection.---Federal inspection is required for all meat, poultry, and processed products moving in interstate and foreign commerce. All meat and poultry moving in intrastate commerce must be federally inspected or inspected by States with inspection systems meeting Federal standards. Activities include inspection of animals, carcasses, meat and poultry products at various stages of handling and processing, and the regulation of labeling. The Federal program also provides financial and technical assistance to States for maintaining the quality of their inspection programs. Extensive laboratory analyses are conducted for detection of economic fraud, chemical residues, antibiotics, and other additives.

Meat and poultry and their products are inspected under the authority of the Federal Meat Inspection Act (21 U.S.C. 601-624; 641-645; 661; 671-680) and the Federal Poultry Products Inspection Act (21 U.S.C. 451-470). There are several other acts relating to the inspection program and administration, such as the Humane Slaughter Act (7 U.S.C. 1901-1906) and miscellaneous provisions of law relating to meat inspection (21 U.S.C. 98).

The scope of inspection is indicated by examples given in the following table:

	1976 <u>actual</u>	1977 <u>estimate</u>	1978 <u>estimate</u>
Federally inspected establishments:			
Meat.....	4,648	4,558	4,467
Poultry.....	730	720	706
Combination Meat and Poultry....	<u>1,833</u>	<u>1,966</u>	<u>2,123</u>
	7,211	7,244	7,296
Federally inspected production:			
(Millions of pounds)			
Meat slaughter.....	36,231	37,137	38,065
Meat processing.....	53,403	54,738	56,106
Poultry slaughter.....	10,998	11,273	11,555
Poultry processing.....	23,699	24,291	24,898
Cooperative agreements with States:			
Meat.....	33	33	33
Poultry.....	26	26	26

The Federal government has assumed State meat inspection programs in seventeen States and poultry inspection programs in twenty-four States.

2. Plant disease and pest control.---In cooperation with the States, programs are conducted to eradicate or prevent spread to uninfested areas of certain plant pests which are established in this country. Surveys are conducted to detect harmful pests and diseases. An inspection program is conducted at ports of entry to prevent the entrance of insects, nematodes, and diseases which are harmful to the plant life of the United States. Plants and plant products are also certified for export.

The statutory authority supporting this program is contained in Title 7 U.S.C., Agriculture, Chapter 7, 7a, 7b, 8, 11, 15, 17, and 55; and Title 49 U.S.C., Transportation, Chapter 20. The principal legislative authority for these activities is contained in the Federal Plant Pest Act; the Plant Quarantine Act; and Section 102 of the Organic Act of 1944. In addition the program has recently been given the authority to control noxious weeds under P.L. 93-629 enacted January 3, 1975

The level of activities for plant pest control is shown by the selected examples that follows:

	1976 <u>actual</u>	1977 <u>estimate</u>	1978 <u>estimate</u>
Acres treated (thousands):			
Boll weevil.....	739	750	750
Grasshopper.....	983	1,000	1,000
Gypsy moth.....	25	100	100
Imported fire ant.....	6,000	- -	- -
Sterile insects released (millions):			
Mexican fruit fly.....	23	23	23
Pink bollworm (adult moth).....	180	400	400
Parasites released:			
Citrus blackfly (thousands)	1,450	3,500	3,500
Environmental Monitoring and Methods Development:			
Imported fire ant			
Sites monitored.....	1,000	1,000	750
Test plots conducted.....	50	50	50
Alternate chemicals screened....	60	60	60

The level of activities for agriculture quarantine inspection at ports of entry is as follows:

	1976 <u>actual</u>	1977 <u>estimate</u>	1978 <u>estimate</u>
Plant and animal byproduct import inspection:			
Airplanes and Vessels (thousands)..	400	400	400
Vehicles from Mexico (millions)....	43	44	44
Baggage, pieces (millions).....	110	110	110
Mail packages (millions).....	65	65	65
Interceptions (thousands):			
Unauthorized plant materials.....	680	700	700
Plant pests.....	35	35	35
Imported animal byproducts pounds.....	260	265	265

3. Animal disease and pest control.---Programs are conducted to keep communicable diseases of foreign origin from entering this country and to prevent the spread of diseases through interstate shipments of livestock or distribution of impure or impotent veterinary biologics. In cooperation with States, other programs are directed at the control and eradication of livestock diseases present in this country. The animal welfare program is concerned with the humane care and handling of approximately 40 million warmblooded animals.

The statutory authority for this work is contained in Title 7 U.S.C., Agriculture, Chapters 15, 17, 30, and 54; Title 15 U.S.C., Commerce and Trade, Chapter 44; Title 19 U.S.C., Customs Duties, Chapter 4; Title 21 U.S.C., Food and Drugs, Chapters 4, 5, and 45; Title 46 U.S.C., Shipping, Chapter 15; and Title 49 U.S.C., Transportation, Chapter 20. Principal legislative authority for these activities is contained in the Act of May 29, 1884; Act of August 30, 1890; Act of February 2, 1903; Act of March 3, 1905; Tariff Act of June 17, 1930; Act of February 28, 1947; Act of September 6, 1961; Act of July 2, 1962; the Animal Welfare Act; the Horse Protection Act; and the Virus-Serum-Toxin Act.

The level of activities for the major control programs on animal diseases and pests is as follows:

	<u>1976</u> <u>actual</u>	<u>1977</u> <u>estimate</u>	<u>1978</u> <u>estimate</u>
Brucellosis:			
Certified Free States.....	29	31	32
Modified Certified States.....	23	21	20
States with zero infection.....	7	9	9
Total number of infected herds found during year.....	16,900	18,000	16,500
Hog Cholera:			
Investigations of suspect cases.	1,806	1,200	1,200
Confirmed Primary Outbreaks.....	3	0	0
Screwworm:			
Cases in U.S. outside of barrier zone.....	736	440	240
Cases in U.S. part of barrier zone.....	19,660	11,000	6,000
Cases in Mexico part of barrier zone.....	17,655	12,000	6,000
Sterile fly production--Mission, Texas, (millions weekly).....	162	190	200
Sterile fly production--Tuxtla Gutierrez, Mexico (millions weekly).....	0	200	300
Scabies:			
Number of quarantines placed because of psoroptic cattle scabies.....	20	45	40
Tuberculosis (cattle):			
States accredited free.....	10	11	12
Herds located.....	52	46	35
Herds depopulated (per year)....	37	28	24
Cattle ticks:			
Premises quarantined outside barrier zone because of infesta- tion with cattle fever ticks...	80	90	55
Premises quarantined within barrier zone because of infesta- tion with cattle fever ticks...	51	60	48
Exotic Newcastle disease surveil- lance program:			
Investigations of suspect cases- U.S.....	69	161	220
Veterinary biologics:			
Number serials produced.....	11,711	13,000	13,000
Percent tested for:			
Potency.....	29	18	18
Purity.....	17	15	15
Sterility.....	36	30	30
Safety.....	2	1	2
Chemistry.....	17	15	15
Number of inspections:			
Indepth.....	18	22	32
Followup.....	13	20	16
Import inspection:			
Animals (thousands).....	749	1,000	1,000
Personally owned pet birds (lots)	1,849	2,000	2,400
Commercial birds.....	175,000	240,000	300,000

	1976 <u>actual</u>	1977 <u>estimate</u>	1978 <u>estimate</u>
Animal care:			
Complaint investigation.....	646	1,000	2,000
Number of inspections conducted at licensees and/or registrants	12,616	17,000	26,000
Number of horse shows and sale nights covered.....	35	15	15
Number of violations processed..	60	22	22

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$1,524,000 for meat and poultry inspection activities consisting of:
 - (a) An increase of \$193,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$360,000 for Working Capital Fund Services.
 - (c) An increase of \$971,000 for space rental costs pursuant to P.L. 92-313.
- (2) A net decrease of \$2,485,000 for plant disease and pest control activities consisting of:
 - (a) An increase of \$45,000 for annualization of pay increases effective in FY 1976.
 - (b) An increase of \$87,000 for Working Capital Fund Services.
 - (c) An increase of \$315,000 for space rental costs pursuant to P.L. 92-313.
 - (d) An increase of \$559,000 for the citrus blackfly program (\$2,643,000 available in 1977).

Need for Increase. In early 1976, a major infestation of the citrus blackfly was discovered in Florida. This is the first known infestation in Florida since 1934. Citrus blackfly is one of the most serious pests of citrus trees, and has reduced crops in infested areas by as much as 50 percent. If not controlled, repeated attacks by this insect can kill a citrus tree in two to three years. Surveys indicate the pest is present in at least 1,000 square miles of Broward, Dade and Palm Beach Counties, Florida, and in limited areas of the lower Rio Grande Valley of Texas. This situation poses a serious threat to the entire citrus industry. Because the insect may spread by either artificial or natural means, regulatory and suppressive measures are underway in infested areas of Florida, Texas, and Northern Mexico. In addition, extensive detection surveys are needed for all citrus producing areas of the United States.

Plan of Work. In 1977, all phases of regulatory, control, survey, research development, and application work will be intensified. More effective chemicals and methods will be employed as a result of methods work. Detection surveys will locate infestations, if present, throughout the citrus growing areas of the U.S.. Parasite rearing will provide parasites that will assist in controlling the infestations. In Texas, parasitism continues to expand as a result of introductions from the Mexican facility and natural spread. New materials and methods similar to those employed in Florida will provide a more effective overall program.

Parasite introduction has become the mainstay of the suppression program in Mexico and South Texas although chemical control is still used where biocontrol lags behind citrus blackfly populations. Accelerated regulatory activities will be used to retard the spread of the insect to uninfested citrus-producing areas in the United States. Research and development will continue to look for more effective means of control and eventual eradication.

A supplemental appropriation of \$559,000 is proposed for FY 1977 to intensify the control efforts against this pest as soon as possible.

- (e) An increase of \$5,103,000 for Mediterranean fruit fly program (No funds available in 1977).

Need for Increase. The Mediterranean fruit fly has moved northward so as to pose an immediate threat of introduction into Mexico. Recently, the pest was detected just 12 miles south of the Mexican border and may have already entered Mexico. If this were to occur, serious consideration must be given to closing the U.S.-Mexico border to Mexican fruits and vegetables.

The Mediterranean fruit fly attacks more than 200 host fruits, melons, and vegetables. Damage could reduce host production by 15 to 50 percent. Quarantines imposed by noninfested counties would restrict or prohibit the export of host crops. Mexico anticipates its total yearly losses from Mediterranean fruit fly could exceed \$100 million from damage to hosts and loss of export markets. Approximately 40 percent of winter vegetables consumed in the U.S. are presently imported from Mexico.

The increase requested would enable the maintenance of a Mediterranean fruit fly barrier zone to keep the pest from becoming established in Mexico. This will be a cooperative program with 50 percent of the funding provided by the U.S.. This program will include a sterile fly rearing facility capable of producing 100 million sterilized fruit flies weekly. These flies will be released in a barrier across Guatemala and southern Mexico to prevent the Mediterranean fruit fly from ever spreading north and becoming established in Mexico. A survey plan for detection of this pest, should it move into south Mexico, was agreed upon and established in 1960 by the Mexican Secretaria de Agricultura y Ganaderia and the U.S. Department of Agriculture. Since that time, a cooperative detection program in Mexico using traps has been in operation on main highways, in large towns, along back roads, and a line of traps has also been maintained along the Guatemalan border.

Plan of Work. Survey will be increased to 20,000 traps in Mexico and 5,000 traps in northern Central America. Quarantine stations and fumigation facilities will be established to prevent spread through artificial means such as passenger carrying vehicles and commercial shipments of infested fruits and vegetables. A communications network will be established to allow rapid transmission of information throughout this remote area. Chemical pesticides and attractants will be used to eliminate outlying areas of infestation. Methods development activities will involve the development of equipment for sterile fly releases. This would include laboratory design, packaging, shipping and handling, and release equipment. Trapping and lure development will be investigated. Commodity treatments will be developed. Environmental evaluation will be conducted to provide recommendations on registration requirements for control materials. A monitoring program and a statistical design for trapping arrays will be developed.

\$4.1 million is being reprogrammed from the imported fire ant program in FY 1977 for this program.

(f) An increase of \$508,000 for agricultural quarantine inspection (\$22,998,000 available in 1977).

Need for Increase. An increase of \$508,000 will allow the program to cope with growing workload demands. There have been no appropriation increases in this program in recent years. Though the number of airplanes and other carriers to be inspected has remained about the same, modern day airplanes and other carriers are larger, enabling them to carry greater numbers of passengers and cargo loads. This increases workload demands. In addition, adapting inspection procedures to an increasing volume of containers moving into the interior of the U.S. requires additional personnel. This funding increase is needed to maintain the current activity and increase inspection work in Mexico and at consignee premises and container devanning sites in metropolitan areas. Increased surveillance and inspection are needed to improve pest detection in these shipments and facilitate the flow of containers through the ports.

Plan of Work. The Department plans to assign inspectors at high-volume interior receiving areas. Inspections will be performed on approximately 50

percent of the containers of agricultural interest. In addition an upgrade of present fumigation equipment and purchase of additional new fumigation supplies will be accomplished. An increase of travel will be needed to provide for pest surveys in selective fruit and vegetable growing areas in Mexico.

(g) A decrease of \$470,000 for barberry eradication (\$925,000 available in 1977).

This proposal allows for the initiation of a gradual phasedown of Federal involvement in the barberry eradication program. The population of barberry bushes has been reduced to the point where early inoculum from barberries is not considered to be a significant source of infection for black stem rust on small grains. It is not necessary to remove every barberry bush where small grain is grown. The decrease in funds in fiscal year 1978 allows an orderly phaseout for the control portion of the barberry eradication program. This program which was started in 1918 has reached a point where the control phase is no longer needed. The 1980 date for phaseout of the control portion of this program will provide a logical termination of the control phase. The proposed phaseout has been agreed to by our State cooperators.

(h) A decrease of \$8,600,000 to phasedown the imported fire ant control program (\$9,133,000 available in 1977). (Of this amount \$4.1 million is being reprogrammed to the Mediterranean fruit fly program in FY 1977).

Recent events that affect the operation of a viable imported fire ant control program raise serious questions as to the justification of a Federal role in the control phase of this program. The Mississippi Authority for Control of Fire Ants, an entity of the Mississippi Department of Agriculture and Commerce, is the sole registrant and manufacturer of mirex bait formulations. This chemical is the only known efficacious material available for use in controlling this pest. The Mississippi Authority recently proposed, and the Environmental Protection Agency (EPA) approved, a plan calling for cancellation of all registrations of mirex bait by December 1, 1977. Additional restrictions in the plan limit the means of application and areas to which the bait may be applied.

To provide effective control and give adequate relief to people in areas infested by the imported fire ant, all suitable habitat for ants should be treated. The most economical and practical way to apply bait is by multien-gine aircraft. Neither of these actions is permitted under the plan recently approved by EPA. Additionally, little benefit would be derived from a program terminating in fiscal year 1978 and the expenditure of Federal funds for one additional year under the plan approved by EPA cannot be justified. There is also a question as to whether the supplier of technical mirex will supply additional chemical to the Mississippi Authority unless it is indemnified against liability by some Federal agency or the Mississippi Authority. There is no indication this will occur.

With the lack of an available, effective, and environmentally acceptable control tool, the feasibility of continuing the survey and regulatory phases of the program becomes moot. The general distribution of the ant can be tracked through the cooperative pest survey. If any state deems that quarantine action is in its interest, then it can take its own regulatory measures. Monitoring efforts to measure the impact of applied mirex on the environment will continue. So will methods development testing aimed at finding new control measures.

(i) A net decrease of \$32,000 in the miscellaneous plant diseases and pests program (\$925,000 available in 1977) consisting of:

1. A net decrease of \$514,000 in the general Miscellaneous Plant Diseases and Pest Program. The decrease will result in a further phasedown of the burrowing nematode program and a complete phaseout of the Japanese beetle program. As a continuing need is indicated, this activity will support

minor phases of these programs until State cooperators can fill in behind the gradual Federal withdrawal. Pest problems of a limited, sporadic nature will continue to be supported by this activity. An example of this is West Indian Sugar Cane Root Borer which causes severe damage to citrus in central Florida.

2. An increase of \$482,000 for a pesticides impact assessment.

Need or Increase. The pesticide impact assessment program will be implemented as a coordinated effort by ARS, CSRS, ES, APHIS, ERS, and FS. Under the 1972 amendments to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) was assigned authority for regulating uses of pesticides.

Under the provisions of FIFRA, EPA has established a process for issuing a Rebuttable Presumption Against Registration (RPAR) for a pesticide when there is evidence it may generally cause unreasonable risk to man or the environment. The present law requires EPA to make reregistration decisions by October 21, 1977. The process EPA has developed allows for substantial involvement of the USDA.

Many of the RPAR pesticides are critical to APHIS's needs and APHIS will undertake an accelerated effort to provide information on the benefits of continued use of these pesticides. The primary objective of the USDA Program for Pesticide Impact Assessment is to provide the most objective and accurate data available for defining and evaluating benefits and risks of selected pesticides having critical agricultural and forestry uses.

Plan of Work. In FY 1977, the Agency plans to make two assessments based on additional economic analyses, and new, but limited, biological research. Early in the year, an assessment team is to be assembled.

Regarding biological efforts, the team will assemble reliable data from regulatory sources, identify data gaps for RPAR process, obtain documentation, and undertake necessary methods development to support reregistration.

Also, the Agency plans to obtain economic data on regulatory use patterns, and initiate special surveys to support reregistration. A supplemental Appropriation of \$482,000 is proposed for FY 1977 to initiate this program.

(3) An increase of \$20,023,000 for animal disease and pest control activities consisting of:

(a) An increase of \$56,000 for annualization of pay increases effective in FY 1976.

(b) An increase of \$168,000 for Working Capital Fund Services.

(c) An increase of \$255,000 for space rental costs pursuant to P.L. 92-313.

(d) An increase of \$208,000 for animal care (\$2,607,000 available in 1977).

Need for Increase. Implementation of the transportation provisions of the Animal Welfare Act Amendments (approved April 22, 1976) will be initiated during FY 1978. Compliance inspections will be initiated at airports in an effort to insure that the newly established transportation provisions and regulations are adhered to. Seven man-years are required to effectively implement and enforce these provisions.

Plan of Work. 12,000 compliance inspections of common carriers and intermediate handlers will be conducted at various airport terminals to assure that the standards established for the humane care and handling of animals have been implemented. Inspections will be geared toward enforcing the minimum age and C.O.D. requirements, assuring that health certificates accompany the animals, and that the animals are being treated in a humane manner.

(e) An increase of \$5,820,000 for brucellosis eradication (\$40,511,000 available in 1977).

Need for Increase. The increase will be used to continue the brucellosis eradication program at its FY 1977 level with increased activity in the states of Alabama and Kentucky. This will enable Alabama and Kentucky to be brought into the accelerated eradication program while maintaining the FY 1977 program level of activities in the other states.

Plan of Work. In fiscal year 1978, APHIS in cooperation with State Governments, will survey slaughter cattle and swine in the United States to detect foci of infection, and will remove infected animals and retest such herds until free of brucellosis. By collecting and testing serum samples from 13 million animals at packing plants and livestock markets we expect to locate 16,500 infected herds, to eliminate 300 of these through depopulation, and to maintain the number of States with zero infection at 9. A portion of this funding increase will be used to increase the use of Strain 19 vaccine in replacement heifers in these States.

The prevalence of brucellosis in cattle remains high in 12 southern and central States. It is planned to bring a few States bordering the free and high risk area into a rapid eradication campaign each year over a period of four years. Georgia and Tennessee will be brought into the rapid eradication phase of the program in FY 1977. Kentucky and Alabama will be brought into the rapid eradication program in FY 1978. Preparatory measures will also be taken to enable Arkansas, and Kansas to be brought into the rapid eradication program in FY 1979. Additionally, slaughterhouse surveillance and epidemiology will be improved in the low prevalence States. This will enable several more States to achieve zero infection status by 1980.

Most developed countries have either eradicated brucellosis in cattle and swine or are in the process of doing so. Eradication methods employed in the United States have been proven to be effective in other countries and in individual States. The swine program has made significant gains in recent years with 13 States now validated as free of brucellosis.

(f) An increase of \$762,000 for cattle fever tick eradication (\$2,586,000 available in 1977).

Need for Increase. Recent infestations of *Boophilus* ticks in Texas have necessitated the reassignment of tick force personnel from within the permanently established quarantine zone to areas adjacent to the zone to more rapidly control these infestations. However, this depleted force in the quarantine zone makes the United States more susceptible to further *Boophilus* penetration from Mexico. Economic losses to the cattle industry could reach \$750 million per year if cattle fever ticks are allowed to again become established in this country.

The tick force within the quarantine zone must be brought back to its full intended strength. An adequate inspection and surveillance system must be established and infestations outside the quarantine zone must be detected and eliminated. Additional surveillance at livestock auction markets adjacent to the quarantine zone is considered a necessity, as it has become evident that undisclosed foci of *Boophilus* exist and are spreading. The extra inspection is expected to disclose several infestations which, in turn, will require additional treatments.

Plan of Work. An additional 30 animal health technicians are required in FY 1978 to accomplish these objectives. Twenty of these technicians will be positioned inside the established quarantine zone to accelerate the detection and apprehension of cattle after their entry from Mexico. The remaining 10 technicians will be assigned to provide inspection at areas adjacent to the quarantine zone.

The objectives will be carried out by patrolling the International Border from the Gulf of Mexico to the Amistad Dam to detect the crossing of cattle other than through the designated ports, the inspection of all pastures within the quarantine zone along the Rio Grande River on a systematic basis to determine the existence of cattle fever ticks, and the treatment of all cattle found in infested pastures to eliminate the infestation. Cattle moving from the quarantine zone will also be inspected as a precautionary measure to prevent the inadvertent movement of ticks to new areas. Eradication will require treatment of infested and exposed animals; the quarantine of infested, exposed, and adjacent premises; and the epidemiological investigation of infestations to determine the source and spread of infestation.

(g) An increase of \$1,581,000 for import-export inspection (\$4,758,000 available in 1977).

Need for Increase. Mobilization of operation of the Fleming Key Import Center will need to be started in early FY 1978. It is proposed to staff the Fleming Key facility with three staff specialists prior to the time the first shipment of cattle arrives at the station.

Several facilities along the Canadian Border are inadequate as inspection facilities for importation of livestock into the United States. Although a heavily traveled port (1,377 entries in 1975 calendar year) no facility exists between the Detroit/Canadian border. All inspection must be performed in the vehicle carrying the animals. This is not only more difficult and time consuming but also hazardous to both inspectors and the animals. The inspection facility at Buffalo, New York (1,354 entries in 1975) located 7 miles from the border on a dirt road, is in poor condition. The facility is an old unused stockyard which must be leased on a month to month basis. The condition of the facility makes it difficult to clean, disinfect and sanitize, and presents a safety hazard for both inspectors and animals. Additionally, inspectors must utilize a nearby trailer as office space.

In FY 1978, the Department of Agriculture will operate an export facility at Stewart Airport, Newburgh, New York, in accordance with the lease agreement signed with the Metropolitan Transport Authority (MTA) of New York State; September 5, 1975. In FY 1979, the import facility now located at Clifton, New Jersey will be moved to Stewart Airport, also in accordance with the lease. The Department did not have an export operation at Clifton, New Jersey, where the import facility is presently located. Therefore, no funds or personnel are available for use at Stewart Airport until the import facility is completed in FY 1979.

Puerto Rico is under Federal quarantine because of the presence there of exotic Newcastle disease. The increase is needed to enable the baggage inspection activities to be carried out on 95% of all flights for the entire fiscal year. The FY 1977 funding level allows for inspection of only 70% of all flights. This means that much of the material which is being intercepted could be missed and serve as a means of introducing Newcastle infection into the United States.

Plan of Work. Selected cattle will be imported into the U.S. at Fleming Key from Foot-and-Mouth Disease (FMD) infected countries for the first time. Four hundred head of imported cattle will be quarantined for 5 months, twice a year. One month will be needed between shipments for clean-up and procurement of supplies for the following shipment. This request for \$950,000 includes salaries of caretakers and operators; contracting for feed, supplies, contact cattle and testing procedures for the first shipment of cattle; utilities and office equipment; plus laboratory and quarantine equipment not included in the construction contract.

Find suitable sites at the Buffalo and Detroit locations and construct inspection facilities, thus providing suitable and adequate inspection facilities for the importation of livestock into the United States from Canada. New

facilities will aid in preventing the introduction and dissemination into the United States of communicable disease of livestock.

It is proposed to operate the Stewart Airport Export facility in FY 1978. According to the terms of the 40 year lease, the USDA is responsible for the care, feeding and handling of the first 50 export shipments each year. The \$50,000 annual estimate is based on these 50 shipments at \$1,000 each. The MTA will reimburse the Department for costs of additional shipments.

The preclearance inspection of outbound baggage from Puerto Rico to the mainland is an essential measure to intercept live birds, poultry, and poultry products to preclude the introduction of exotic Newcastle disease into the continental United States until such time as the disease is eradicated from the island.

Inspectors remove live birds and chickens, poultry and meat products, and eggs. From July 1, 1975, through June 30, 1976, inspectors intercepted 150 live chickens and birds, 6,894 dressed chickens or parts, and 22,733 eggs. As an added safety measure inspection of pit and hold baggage on most flights from the Virgin Islands to the United States is carried out when the flights stop at the San Juan, Puerto Rico Airport.

(h) An increase of \$1,341,000 for miscellaneous animal diseases and pests-bluetongue (\$2,668,000 available in 1977).

Need for Increase. Presently, neither Australia nor New Zealand will accept sheep, goats, or cattle from the U.S. because of the existence of bluetongue in the U.S.. An estimated \$10-15 million in exports is lost annually in these two foreign markets alone due to the existence and prevalence of this disease in the U.S.. Partial bans imposed by other countries further increase the export losses attributable to bluetongue. Restrictions in these and other countries are expected to tighten, thus, export losses can be expected to increase in the future. Substantial domestic losses also occur as a result of the effects of this disease which include death, abortions, and weight loss.

Plan of Work. A survey to evaluate the bluetongue situation in the U.S. will commence in FY 1978. Eight man-years are required to conduct the survey and tabulate the results. Subsequently, the feasibility of conducting a control or eradication program will be determined. Plans will also be developed for delineating bluetongue free areas in the U.S. for export shipments. Areas will be tested at random to determine the incidence of BT in the U.S. cattle population. This will result in the collection, testing, and tabulation of 60,000 cattle samples. When the testing is complete, pilot studies will be conducted to evaluate possible control or eradication procedures aimed at lowering or altering the vector population for BT and/or lowering the carrier host population.

(i) An increase of \$4,560,000 for U.S.-Mexican screwworm eradication program (\$29,098,000 available in 1977).

Need for Increase. An increase for FY 1978 is necessary to produce and release sterile screwworm flies in the Tuxtla Gutierrez, Mexico plant at the average rate of 300 million per week. In the United States, the increase is needed to increase production at the Mission, Texas plant to an average of 200 million flies per week. The Tuxtla and Mission increases also include funds for the continuing increase in the cost of the fly rearing media.

Plan of Work. It is planned to produce an average of 200 million sterile screwworm flies at the Mission plant each week to prevent migration of screwworm flies into the United States from Mexico and to produce an average of 300 million sterile screwworm flies at the Tuxtla plant in Mexico each week. In FY 1977, funds were requested to initiate fly production at the Tuxtla

Gutierrez plant in Mexico and to build up to a weekly total of 200 million flies. In FY 1978, increased funds are necessary to increase the average weekly production figure to 300 million flies per week. Tuxtla-reared sterile flies will be airlifted to northern Mexico and released in areas adjacent to those areas where Mission-reared flies are currently being released along the U.S.-Mexico border. As native fly populations are pushed southward, the fly release zone will also be moved southward to the Isthmus of Tehuantepec.

(j) A net increase of \$4,127,000 for repayment to Commodity Credit Corporation (\$333,000 available in 1977).

A total of \$4,460,000 will be required to repay the Commodity Credit Corporation for an advance, and interest thereon, made during FY 1976 to finance the hog cholera emergency in the northeastern United States. This is partially offset by a decrease of \$333,000 that was provided in the FY 1977 Appropriation Act for repayment to CCC of an advance plus interest that was made to APHIS to combat the exotic Newcastle emergency.

(k) An increase of \$1,145,000 for veterinary biologics inspection (\$5,079,000 available in 1977).

Need for Increase. Funds are requested to staff, equip, and begin operation of the new laboratory facility for biologics testing at the Veterinary Services laboratories in Ames, Iowa. Although construction will not be completed until July, 1978, initial staffing and equipping must take place approximately 6 months prior to this date. This will allow for the timely and efficient operation of the facility once construction is completed.

During FY 1978 an effort will be made to reduce the number of major and minor violations of the regulations promulgated under the Virus-Serum-Toxin Act. The number of in-depth and follow-up inspections of licensees (manufacturers) will be increased by 14% (from 42-48). Increasing the number of these inspections will help insure that only safe, pure, potent and efficacious veterinary biologics will be marketed in interstate commerce. One additional veterinarian is required to achieve the increased workload.

Plan of Work. Thirty-five positions (27 PFT and 8 others) are required to support the operation of the new laboratory. Equipment needs include media, glassware preparation equipment, cages, animal support equipment, and laboratory "bench" equipment. The new laboratory will be in operation 24 hours a day, 7 days a week. A basic cadre of operator/mechanics will be on duty to operate and safeguard this facility on a three shift basis. Security must be maintained after regular hours because of the nature of the disease agents being utilized within the facility.

Approximately 32 of the 48 inspections performed during FY 1978 will be of in-depth nature. The remaining 16 will be follow-up inspections. Each in-depth inspection requires 2-3 men for an average of 10 days per inspection. A list of the major and minor violations of the regulations is compiled during the inspection, and presented to the licensee upon completion. A follow-up inspection is undertaken 3-12 months later to determine whether the violations have been corrected.

(4) A decrease of \$3,800,000 to eliminate nonrecurring item that was provided for in the FY 1977 Appropriation Act for construction of the Stewart Animal Import Center.

STATUS OF PROGRAM

The Animal and Plant Health Inspection Service was established on April 2, 1972, pursuant to the authority of the Reorganization Plan No. 2 of 1953. The Service carries out the Department's responsibility to insure for consumers a wholesome supply of meat and poultry and to protect the nation's sources of food, feed and other farm products from diseases and pests.

Federal inspection is provided for all meat and poultry products moving in interstate and foreign commerce. Labels are examined to insure that they correctly identify the product. In addition, Federal inspection of meat and poultry products is provided where the States are unable or unwilling to establish and maintain an inspection system at least equal to the Federal. In other States financial and technical assistance is furnished to State governments to aid in the operation of intrastate inspection programs which are at least equal to the Federal program.

Cooperative programs are conducted with State and local agencies and organizations to control, eradicate and prevent the movement of plant and animal diseases and pests. Inspection and regulatory programs are conducted to prevent introduction into the United States of pests and diseases of foreign origin and to prevent the spread of those within the country. Under the Virus-Serum-Toxin Act, activities are conducted to prevent the production and interstate distribution of worthless, contaminated, dangerous, and harmful veterinary biologics. Under authority of the Animal Welfare and Horse Protection Acts, activities are conducted to prevent the sale or use of animals which have been stolen, to insure that certain animals intended for use in research or for exhibition purposes are provided humane care and treatment, and to prevent the interstate movement and exhibition of horses which have been "sored".

MEAT AND POULTRY INSPECTION

Current Activities: The Federal Meat and Poultry Inspection Program is designed to insure the consumer that meat and poultry products are wholesome, unadulterated, and properly labeled. This goal is attained through direct Federal inspection of meat and poultry products in interstate and foreign commerce, cooperative agreements with States, and direct Federal inspection of products in intrastate commerce in those States where a cooperative agreement is not possible. Major direct Federal activities include:

1. Inspection of animals and poultry before and during slaughter.
2. Inspection of meat and poultry products and their processing to insure sanitary conditions.
3. Inspection of imported meat and poultry products.
4. Approval of labels, and insurance that processing is in accordance with the conditions of approval.
5. Inspection of meat and poultry for the presence of harmful pesticides and other chemical and biological residues.
6. On-site reviews of foreign inspection systems and plants exporting to the United States.
7. Certification of United States meat and poultry products for export.
8. Supervision of the destruction of condemned and other inedible meat and poultry for food purposes.

9. Regulation of related industries, including animal food manufacturers, brokers, shippers, and wholesalers; and dealers in dead, dying, diseased and disabled animals and poultry; to prevent their serving as a loophole through which uninspected or adulterated meat and/or poultry products could enter human food channels.
10. Providing analytical and consultative services in support of the national meat and poultry inspection program and to State and other Federal agencies in the field of chemistry, microbiology, pathology, parasitology, toxicology, and epidemiology.
11. Approval of plant facilities and equipment.

Major cooperative Federal-State activities include providing financial, technical, and training assistance to States to aid in the operation of inspection programs which are at least equal to the Federal system. Other cooperative efforts are designed to promote the most efficient use of Federal and State personnel.

Selected Examples of Recent Progress

1. Federal-State Cooperative Programs

Increasing costs of government in recent years have prompted the States to reassess their programs to find ways where savings could be achieved. Their cooperative meat and poultry inspection programs offer areas where savings can be achieved, since by turning these programs over to the Federal Government they can avoid paying their half of the cost of inspection with no concurrent loss in consumer protection. Despite this major disincentive for the States to participate in these cooperative inspection programs, 33 States are continuing to operate their meat inspection programs and 26 States are continuing their poultry inspection programs. These States are inspecting meat and poultry in some 5,100 plants with 3,600 inspection personnel. These inspections are being carried out at a level fully equal to that required under the Federal inspection acts. State inspectors are also staffing 208 Federal plants under the provisions of the Talmadge-Aiken Act. Finally, 27 States and one Territory are participating in cooperative agreements covering the surveillance of industries allied to the slaughter and processing of meat and poultry.

It remains the policy of USDA to work closely with the States and to encourage them to maintain their own inspection programs. However, for financial reasons, during FY 1976 five States found it necessary to terminate their poultry inspection programs. The States involved were California, Connecticut, Massachusetts, New Jersey, and Tennessee. States which terminated their meat inspection program, also for financial reasons, were California, Colorado, Connecticut, Massachusetts, New Jersey, New York, and Tennessee.

2. Effectiveness of Inspection

A program to evaluate the effectiveness of inspection through systematic and periodic review of plants under inspection is now in full operation. The evaluation program provides independent and objective assessment of plant's compliance with the inspection laws and regulations and, in addition, provides a means for concentrating corrective inspectional measures in marginal plants. In FY 1976, some 2,600 plants were evaluated under this program.

3. Allied Industries

During FY 1976, over 44,000 reviews were conducted of the operations of shippers, wholesalers, warehouses, and animal food manufacturers. A total of 924 violations of the meat and poultry inspection laws were reported. Over 10 million pounds of meat and poultry products suspected of being adulterated

and/or misbranded were detained and either voluntarily brought under compliance by the owners or seized for disposition by the Federal Courts.

4. Imported Meat and Poultry

At the close of FY 1976, some 1,100 meat and poultry plants in 43 foreign countries were certified as meeting the inspection and other requirements of the Federal meat or poultry inspection acts. Nearly 3,000 on-site reviews of these plants were made during the year by 20 veterinary medical officers. These plants exported some 1.9 billion pounds of meat and poultry products to the United States during FY 1976.

5. Chemical Residues

An estimated 675 residue violation cases will be found during calendar year 1976--the lowest number in four years. There are several reasons for this improvement. The Program has actively encouraged livestock and poultry producers to assume responsibility for preventive efforts aimed towards proper drug usage and the monitoring of feedstuffs intended for livestock and poultry. In one State, Virginia, the poultry processors have banded together and established their own laboratory to test feeds for pesticide and other chemical residues.

Close cooperation between the Program and the Food and Drug Administration (FDA) is resulting in a better exchange of information and followup efforts to identify sources of residue problems and to initiate corrective actions. In one case, approximately 150 swine destined for slaughter were returned to the farm after FDA notification to the Program that they probably contained violative levels of a chemical residue.

Drug companies are now reevaluating their data when Program monitoring indicates a problem. When advisable, they have revised their drug usage instructions to extend withdrawal times, or they have made other changes. The net effect is to decrease the likelihood that residues will be present in animals' tissues when they are slaughtered.

During FY 1976 the Program provided advice and assistance to Michigan officials to help prevent violative levels of polybrominated biphenyls (PBB's) in livestock from reaching the consumer. The testing program for PBB's indicated that Michigan's efforts were effective in preventing animals with significant levels of this industrial chemical from reaching the marketplace.

6. Nitrites and Nitrosamines

The Secretary's Expert Panel on Nitrites and Nitrosamines made recommendations to decrease the levels of permitted nitrites and nitrates in meat and poultry products. These recommendations were adopted and incorporated in a regulatory proposal in FY 1976. Well over 300 comments have been received on the proposed regulations and final regulations will be issued soon. The final regulations will lower permitted levels of these additives while still holding them high enough to significantly help prevent the growth of the bacteria which causes botulism.

7. Canning Regulations

The Program has stepped up its efforts to require improved controls over canned meat and poultry products. Proposed new regulations were issued, with the full support of the canning industry, in 1976. The additional process controls which will be required by these regulations will materially reduce the possibility that a serious food poisoning outbreak can occur.

8. Consumer Activities

The Agency prepared a plan for increased consumer representation in its decision-making. As a result, organized consumer groups throughout the United States are now receiving copies of proposed Program regulatory changes by direct mail. A serious attempt is being made to improve the writing of regulations and the material explaining the regulations so that persons without a legal background can understand them. When controversial issues require decisions, briefings are being held in cities around the country to increase the opportunity for consumers to provide their views. An Agency-level consumer advisory committee is also being set up. Lastly, consumer representatives are being placed on all scientific advisory committees.

9. Program Efficiency

The Program is actively searching for, and developing, new and less costly methods of carrying out its inspection responsibilities. A highly promising test is being developed at Los Alamos, New Mexico, to screen swine for trichinosis. If successful, this test will provide better consumer protection and also help to reduce inspection and industry costs now associated with this dangerous parasite. The test may also be used to screen animals for other diseases, such as beef tapeworms. If the test proves successful in locating cattle with this parasite, it could result in increased consumer protection and a very significant reduction in the inspection costs now incurred. New poultry postmortem inspection procedures are now being pilot tested. The new procedures will provide the same high level of protection at a reduced cost. Finally, the Department has engaged an outside consulting firm to make a comprehensive study of all phases of the inspection program and make recommendations for cost reductions that could be made without sacrifice to the consumer protection aims of inspection. The contractor's recommendations are due in June, 1977.

10. Cooperation With the Food and Drug Administration

During FY 1976 the Program took positive and successful steps toward increased cooperation with its sister food inspection agency, the Food and Drug Administration (FDA). Policy meetings and professional interchanges were held between many levels of FDA and this Program on subjects such as product standards and labeling, analytical methods, chemical residues, food additives, toxicology, food hygiene, canning controls and control of food poisoning organisms. In addition, an interagency group is working out ways to reduce duplication of inspection activities when food processing plants are covered by both agencies.

11. Quality Assurance and Process Control Programs

Some 300 additional quality and process control procedures proposed by inspected plants were reviewed and approved by the Program during FY 1976. This brings the total of such quality control programs now in use to approximately 1,500. The greatest value of these programs is that the plants are specifically committing themselves to responsibility for meeting inspection requirements. The Program can then focus its attention on monitoring the performance of the plants in meeting the goals to which they have committed themselves.

12. Training

To meet the new inspectional requirements required by changes in the technology of meat and poultry food production, highly competent inspectors and supervisors are a necessity. For this reason, training has assumed a strong role in Program activities. New employees must be made productive as quickly as possible and older employees must be retrained as new inspectional methods are developed. A variety of training techniques are employed, including classroom training, self-instructional guides, videotape, slide-tape, motion pictures,

and on-the-job training using trained instructors. During FY 1976, 789 Federal veterinarians and 1,058 food inspectors were trained using a variety of methods.

The Program makes available its expertise and instructional materials, and also provides instruction on request to States, universities and foreign governments. During FY 1976, 127 State-employed veterinarians and 38 food inspectors were trained. Four faculty members and 98 third year veterinary students at Iowa State University received instruction. Two Taiwanese veterinarians received training in the United States. Lastly, special assistance to Caribbean, Central and South American countries has been provided through the auspices of the Pan American Health Organization. Twenty-three Venezuelan veterinarians were given instruction in poultry inspection. Assistance was provided to Guyana to help that country design and implement an inspection system. Training materials and technical assistance in curriculum development were made available on demand.

13. Food Safety

The Program routinely investigates food poisoning outbreaks involving meat and poultry for the purpose of identifying the cause and determining necessary corrective measures. Two outbreaks of salmonella food poisoning during FY 1976 were traced back to meat processing plants. In one, involving ground beef, the causative factor could not be identified. In the other, faulty processing of a roast beef product was found; all product on the market was recalled, and the processing method was corrected.

The overwhelming majority of food poisoning outbreaks involving meat and poultry products, however, when investigated, are found to stem from mishandling in homes, restaurants, and other food preparation establishments, such as caterers. For this reason, the Program has intensified its food handler and consumer food safety education program. The program is aimed towards getting across the theme, "keep it hot, keep it cold, and keep it clean".

During the past two years the Program has distributed over 2.4 million pamphlets many of them written in Spanish as well as English. A variety of distribution methods are in use; i.e. supermarket chains, at exhibits set up during conventions and fairs, through schools, and through restaurant chains for use in training their food handlers.

The education campaign has placed major emphasis on the radio and television media as the best means of reaching many people at the lowest cost. New radio and television spot announcements have kept the cartoon characters "Sal and Arnie" before the public and introduced the television personalities of the regular series "The Odd Couple" in food safety roles. Radio announcements have been provided in Spanish as well as English and in versions which permit the stations to use local names and call letters. During 1975 and 1976 five new television spots were released and four older spots were re-released to 700 TV stations. During this same period 83 radio spots were released to 6,100 stations and two personalized spots were released to 400 stations. Response cards from radio and television stations indicate that the spots are being used increasingly.

The Agency employs a full time Consumer Specialist who travels to all parts of the country making personal appearances in high school and college home economics classes. She grants interviews to newspapers and periodicals, appears on local and national radio and television programs and also writes feature articles for distribution to the press.

The Agency has also been active in helping to organize a Government group named Consumer Education and Information Liaison. This group represents some 15 agencies and it was set up for the purpose of providing a better mechanism

for sharing knowledge and techniques on reaching consumers with educational and information material. This forum has been very helpful in expanding this Agency's range of production and distribution methods.

Geographic Distribution of Obligations:

Meat and Poultry Inspection

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Alabama	\$ 5,956,939	\$ 6,614,000	\$ 6,680,000
Alaska	213,127	241,000	242,000
Arizona	833,400	938,000	944,000
Arkansas	6,619,272	7,361,000	7,406,000
California	13,058,767	14,529,000	14,642,000
Colorado	3,121,208	3,488,000	3,509,000
Connecticut	1,218,032	1,347,000	1,355,000
Delaware	1,484,477	1,660,000	1,670,000
District of Columbia	15,229,189	16,959,000	17,062,000
Florida	3,330,557	3,705,000	3,727,000
Georgia	9,822,566	10,945,000	11,012,000
Hawaii	584,846	649,000	654,000
Idaho	1,122,873	1,251,000	1,259,000
Illinois	8,757,953	9,743,000	9,802,000
Indiana	3,825,382	4,258,000	4,284,000
Iowa	9,107,454	10,151,000	10,213,000
Kansas	4,616,105	5,148,000	5,179,000
Kentucky	2,455,096	2,742,000	2,759,000
Louisiana	2,569,287	2,863,000	2,880,000
Maine	1,199,000	1,347,000	1,355,000
Maryland	9,768,507	10,873,000	10,939,000
Massachusetts	2,283,810	2,550,000	2,565,000
Michigan	4,148,922	4,619,000	4,647,000
Minnesota	8,584,632	9,550,000	9,608,000
Mississippi	4,567,621	5,076,000	5,107,000
Missouri	6,863,935	7,650,000	7,696,000
Montana	1,484,477	1,660,000	1,670,000
Nebraska	5,829,627	6,495,000	6,535,000
Nevada	228,381	265,000	266,000
New Hampshire	456,762	505,000	508,000
New Jersey	3,368,620	3,753,000	3,776,000
New Mexico	970,619	1,083,000	1,089,000
New York	7,670,863	8,540,000	8,592,000
North Carolina	6,223,383	6,928,000	6,970,000
North Dakota	894,492	986,000	992,000
Ohio	5,709,526	6,351,000	6,389,000
Oklahoma	2,245,747	2,502,000	2,517,000
Oregon	2,150,588	2,406,000	2,420,000
Pennsylvania	9,991,671	11,128,000	11,206,000
Rhode Island	532,889	601,000	605,000
South Carolina	1,712,858	1,900,000	1,912,000
South Dakota	1,674,794	1,876,000	1,888,000
Tennessee	4,377,303	4,883,000	4,913,000
Texas	13,303,196	14,818,000	14,908,000
Utah	1,008,683	1,131,000	1,137,000
Vermont	260,518	289,000	290,000
Virginia	4,415,367	4,907,000	4,937,000
Washington	2,645,414	2,935,000	2,953,000
West Virginia	777,447	866,000	871,000
Wisconsin	4,719,875	5,268,000	5,300,000
Wyoming	209,349	240,000	242,000

Meat and Poultry Inspection Continued

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Puerto Rico	1,199,000	1,347,000	1,355,000
Virgin Islands	27,854	29,000	30,000
Guam	13,990	15,000	16,000
Samoa	14,629	16,000	17,000
Foreign Countries:	518,460	577,000	581,000
Total	215,979,339	240,557,000	242,081,000

PLANT PROTECTION

Current Activities: The Department cooperates with State and local agencies, the Republic of Mexico, Canada, and other Western Hemisphere countries in order to protect our Nation's farm crops from insects, nematodes and diseases. Surveys are conducted to detect harmful pests and diseases. Efforts are focused on preventing interstate spread of harmful pests and diseases. The effects of the use of pesticides on the environment are closely checked.

Selected Examples of Recent Progress:

1. Boll Weevil--Texas High Plains

Control was required on approximately 1,000,000 aggregate acres on the High Plains and the upper Rio Grande. Evaluations indicate that boll weevil populations throughout the control zone were reduced to very low levels. The reduced dosage of ultra-low volume malathion applications to 12 ounces per acre during the entire season continued to achieve excellent control. While infestations were heavier and more extensive than in several years, a well organized and executed program was successful in preventing spread. Favorable weather conditions for overwintering and reproduction in 1975 and 1976 contributed to extensive migrations into the control zone and onto the Cap Rock.

The boll weevil diapause control program on the Texas High Plains continues to prevent western spread to Arizona, California, New Mexico, and west Texas.

2. Citrus Blackfly

The citrus blackfly was detected for the first time in 40 years in Florida, February 5, 1976. Intensive surveys determined that the pest was present over 1,000 square miles from West Palm Beach to south Miami. Efforts now underway in Florida are similar to those employed in the Lower Rio Grande Valley in Texas and adjacent areas of northeastern Mexico. Pesticides are applied to populations posing a high hazard for rapid movement to commercial citrus groves. Further, parasites have been introduced and established in the generally infested areas in both Florida and Texas to suppress populations. Regulatory action is continuing to reduce the threat of the insect's spread from nurseries in the regulated area to non-infested areas.

Research and development activities have been expanded. A new control insecticide has been tested and is now in program use. Parasite colonies are being established in the Monterrey, Mexico, rearing facility, and a production of $\frac{1}{2}$ million per week is anticipated in early 1977.

3. Grasshopper Control

During the summer of 1976, approximately 527,823 acres of heavily infested rangeland were treated. This is much less than was indicated by the survey conducted the previous season. Favorable rains and cool weather contributed to the reduction of populations below the economic threshold. Adult survey during 1976 identified potentially damaging populations on approximately 2,959,110 acres in Colorado, Idaho, Montana, Oregon, North Dakota, South Dakota, Washington, Utah, and Wyoming. Mormon crickets were a problem again this year and required treatment of 43,372 acres. We can expect significant populations of Mormon crickets in 1977, principally in Colorado, Idaho, Nevada, Wyoming, and Washington.

4. Gypsy Moth

Eradication treatments were applied to 1,000 acres in Cook County, Illinois. No moths were recovered after treatment in the treated area or areas surrounding the treatment. Over 28,000 acres of infested campgrounds were treated in approximately nine States by air and ground equipment to prevent artificial spread of this pest. Progress continued against the outbreak in central Michigan. Over 16,000 acres were treated and intensive delimiting surveys were conducted in preparation for expanded control activities in 1977.

Approximately 84,000 traps were deployed in 35 States to detect the presence of this pest. Male gypsy moths were found in new counties in Alabama, Florida, Georgia, Minnesota, North Carolina, Ohio, South Carolina, and Wisconsin. In California, 300 egg masses have been detected at San Jose in Santa Clara County where 3 male moths were trapped in 1976. This is the first established infestation of gypsy moth in California. Plans are underway with cooperators to begin eradication efforts in the spring of 1977.

Parasite rearing facilities are operated in cooperation with the New Jersey and Maryland Departments of Agriculture. The New Jersey facility shipped approximately 215,000 parasites, while the Maryland facility reared over 51,000 parasites for release within the State.

5. Imported Fire Ant

Under terms of a Memorandum of Understanding between the U.S. Department of Agriculture and the Environmental Protection Agency, a full-scale program was planned for the fall of 1975. The unavailability of mirex 4X bait precluded such a program; however, the Department provided technical assistance to those States that carried out a program with the bait on hand. Subsequently, the Allied Chemical Corporation halted mirex bait production and transferred all registrations for mirex bait to the Mississippi Authority for the Control of Fire Ants. The Authority also purchased Allied's plant in Prairie, Mississippi, in the spring of 1976. With the availability of bait, cooperative programs were initiated in the late spring of 1976 in Alabama, Arkansas, Georgia, Louisiana, and Mississippi. Most of these treatments continued into the Transition Quarter. The following acreages have been treated in 1976: Alabama--331,926, Arkansas--176,000, Georgia--3,767,373, Louisiana--619,450, and Mississippi--2,210,545. During the summer of 1976, the Mississippi Authority proposed, and Environmental Protection Agency approved a plan calling for cancellation of all registrations of mirex bait by December 1, 1977. Although a full-scale control program was planned for the fall of 1976, the unavailability of mirex bait and restrictions limiting the means of application and areas to which the bait may be applied halted these plans.

6. Mediterranean Fruit Fly

The Mediterranean fruit fly infestation detected in Los Angeles, California, in September 1975, was declared eradicated August 2, 1976. When control efforts were terminated, over 572 million sterile Mediterranean fruit flies had been released within the 100-square-mile infested area. This serious pest of citrus and stone fruits has been eradicated a number of times from the continental United States, but this was the first time where sterile fly release was the major control method used.

7. Pink Bollworm

The sterile moth technique to prevent establishment of the pink bollworm in the San Joaquin Valley of California continues promising. Aerial releases of sterilized adult pink bollworms started on May 10 with an average daily release of about 1 million. A total of approximately 180 million was released in 1976. Over 27,000 traps were serviced in 1 million acres of cotton in the valley to monitor the program.

Unusually large numbers of native moths were recovered in the San Joaquin Valley in the fall of 1976 following storms with wind currents favorable for moth movements from generally infested areas to the south. This may spell trouble for 1977. Plans are being developed to deal with the potential problems.

8. Witchweed

A concentrated methods development effort has made technology available to enable us to go into an eradication program on witchweed. In the eradication area, treatments are applied as needed so no witchweed goes to seed. These treatments involve the integration of several techniques including soil injection of ethylene gas to cause suicidal germination of witchweed seed and application of herbicides as needed on corn and idle land. Methyl bromide will be used in some areas to kill seed in the soil. We are encouraged by the success of the newly developed technology which is helpful in the program, and also technology which is being developed and holds promise for use in the near future.

There are approximately 40,000 acres on the periphery of the witchweed infestation that were in the eradication program in 1976. In this area treatments are applied as needed so no witchweed goes to seed.

Since the beginning of the program, witchweed has been found in 37 counties and eradicated in 9 of these counties. During 1975, 2,479 acres were released from quarantine. A total of 4,412 acres has been released from quarantine to date.

Climate control studies in growth chambers show that witchweed can grow and reproduce anywhere in the United States where corn and sorghum are grown for grain. Heavy infestations can reduce corn yields nearly 100 percent.

9. Pest Detection

During FY 1976, there were two plant diseases reported new to the United States that could have a considerable impact on American agriculture. These were little cherry virus (LCV) reported from the State of Washington and soybean rust (*Phakopsora* sp.) reported from Puerto Rico. In addition to these two plant diseases, there were 11 other previously unreported plant pest finds made in the United States. All known cherry trees infested with LCV have been removed, and additional surveys are scheduled for FY 1977. Regulatory action has been taken to prevent the soybean rust from entering the continental United States. The other pests appear to be less threatening, and no action was taken by Animal and Plant Health Inspection Service personnel.

AGRICULTURAL QUARANTINE INSPECTION

Current Activities: An inspection program is conducted at ports of entry to prevent the entrance of insects, nematodes and diseases which are harmful to the plant life of this Nation. The Department also certifies plants and plant products for export.

Selected Examples of Recent Progress:

1. Bicentennial Bonsai Collection

A consignment of 53 bonsai plants valued at \$4 million was processed through the PPQ Plant Quarantine Facility at Glenn Dale, Maryland. The shipment represented a bicentennial gift from Japan to the United States. The plants including conifers, deciduous and fruit trees, and ornamentals arrived with soil which is prohibited from all foreign countries. Consequently, the plants were detained in quarantine for 1 year during which time they were observed for pests and pathogens. After the pathogens and pests were eradicated, the collection was moved to its permanent location at the U.S. National Arboretum in Washington, D.C..

2. Containerized Cargo Review

The use of containers for shipment of a wide range of cargoes from foreign countries has created considerable inspection problems for PPQ. House-to-house and pier-to-house container shipments are virtually impossible to examine at port of arrival devanning stations or container stations without presenting the importer with huge unloading charges. Releasing such shipments with only a cursory "tailgate" inspection subjects our agricultural interests to unknown risks. A special review was initiated at the major container ports of New York and Charleston, South Carolina, in early 1976. The review was to determine the need for redirection of inspection emphasis to provide the necessary control and protection. All facets of these studies are presently being critically reviewed so that new policy guidelines can be developed.

3. Cooperation with U.S. Army--Okinawa

Plant Protection and Quarantine Programs (PPQ) provided onsite advisory and technical assistance in connection with the return to the United States of 20,000 tons of retrograde cargo at the request of the Department of the Army. Because of the termite and snail problems found to be inherent with such cargoes, almost 100 percent of the cargo had to be fumigated before shipment. After initial PPQ involvement, the program was handled exclusively by personnel of the U.S. Army Garrison--Okinawa. No live pests were intercepted from this cargo during port of entry inspection indicating that an outstanding job was performed by military personnel.

4. Federal Plant Pest Act (FPPA) Permits Issued

Permits are issued to scientists and other persons to regulate the entry and movement of cultures of plant pests or pathogens into the United States and across State lines for scientific or educational purposes. As a condition of granting the permit, the permittee must meet specified State and/or Federal conditions regarding safeguards.

A total of 1,262 permits was issued during FY 1976, an increase of 14 percent over the same period in FY 1975. An additional 410 permits were issued during the Transition Quarter. The major reason for the increase was the States' requirement for commercial suppliers of live organisms to submit individual permit requests to move organisms on a State-by-State basis.

5. Plan in Development Stage to Change Imported Fruit Inspection System

How can PPQ provide better service to fruit importers, better utilize PPQ manpower in fruit inspections, and still maintain a safe level of inspection integrity to prevent pest introductions? These questions stimulated a critical review of the present inspection activity at ports of entry regarding imported fruit. The traditional 2-percent sample inspection by grower's lot has bogged down the inspection process causing importers to become impatient awaiting release of their shipments. Also, considerable man-hours are required to accomplish this type of a sampling inspection. A plan to put all fruit inspections under a biometrically based sampling inspection is under development. This is similar to the successful system now in operation in handling imported apples and pears from Australia and New Zealand. The results will be fewer man-hours required to provide a more valid and biologically sound inspection system.

6. Operation Sail 1976

During the bicentennial summer of 1976, many nations participated in Operation Sail, a salute to the maritime heritage of the United States. Ships from around the world joined in honoring our Nation's 200th birthday by visiting American ports. Sailing vessels measuring up to 400 feet in length and having up to 400 crewmembers were involved along with seagoing ketches, yawls, and cutters. Much advance preparation was made through APHIS Information Division and PPQ to get ready for the large number of ships which required inspection at ports of entry. Newport, Rhode Island, was the focal point of the operation where 117 vessels were boarded upon arrival and 21- $\frac{1}{2}$ tons of garbage removed for incineration.

7. Review of Foreign Site Activities (Preclearance of Plant Material)

Preclearance of flower bulbs, principally from Belgium and the Netherlands, has progressed over a 25-year period to the point where in excess of 350 million bulbs enter with little or no inspection at U.S. ports of entry. During the same period, the health status of the bulb crops has improved, stimulated by USDA phytosanitary standards to a point where organisms of quarantine significance are no longer encountered. Coupled with this increase in protection to our crops is a substantial decrease in workload required of inspectors at U.S. ports of entry. Since inspectors are no longer required for the bulbs, they are available for inspecting higher risk areas such as cargo, baggage, meat, and garbage.

8. Plant Pests of Quarantine Significance Frequently Intercepted

	Number of lots containing pests intercepted FY 1976
1. Black spot of citrus	376
2. Citrus canker	301
3. Sweet orange scab	389
4. European cherry fruit fly	54
5. Mexican fruit fly	423
6. Olive fruit fly	69
7. Mediterranean fruit fly	203
8. Citrus blackfly	47
9. Japanese citrus scale	401
10. Khapra beetle	133
11. Golden nematode	27

Geographic Distribution of Obligations:

Plant Protection

	1976	1977	1978
	<u>Actual</u>	<u>Estimate</u>	<u>Estimate</u>
Alabama	485,409	471,000	100,000
Alaska	8,369	24,000	24,000
Arizona	696,797	588,900	490,000
Arkansas	272,406	18,000	18,000
California	1,223,587	560,500	561,000
Colorado	47,834	550,500	551,000
Connecticut	138,728	140,200	141,000
Delaware	72,358	56,500	57,000
District of Columbia	348,743	1,422,000	1,271,000
Florida	1,928,872	2,229,400	2,511,000
Georgia	3,261,172	3,381,700	392,000
Hawaii	48,880	89,000	90,000
Idaho	303,624	157,000	168,000
Illinois	148,870	146,000	121,000
Indiana	181,407	105,000	89,000
Iowa	112,737	100,600	62,000
Kansas	42,796	44,000	30,000
Kentucky	106,932	56,000	55,000
Louisiana	1,113,211	1,115,300	324,000
Maine	177,016	171,000	172,000
Maryland	844,470	1,217,800	1,139,000
Massachusetts	118,847	129,000	129,000
Michigan	667,934	634,000	631,000
Minnesota	173,950	650,000	523,000
Mississippi	2,325,875	311,000	311,000
Missouri	162,269	2,399,000	398,000
Montana	1,122,603	500,000	503,000
Nebraska	110,749	93,000	67,000
Nevada	84,903	45,000	45,000
New Hampshire	30,104	32,000	32,000
New Jersey	312,858	316,000	319,000
New Mexico	278,834	178,000	179,000
New York	1,188,324	1,070,000	1,080,000
North Carolina	2,742,709	4,742,700	4,686,000
North Dakota	72,289	41,000	41,000
Ohio	269,578	209,800	156,000
Oklahoma	144,460	141,000	118,000
Oregon	72,199	84,100	82,000
Pennsylvania	641,670	632,000	610,000
Rhode Island	48,548	46,000	46,000
South Carolina	1,032,612	1,047,000	983,000
South Dakota	9,392	12,000	11,000
Tennessee	248,473	217,800	135,000
Texas	3,823,823	3,221,000	2,216,000
Utah	99,402	1,305,000	1,316,000
Vermont	69,652	66,200	65,000
Virginia	334,150	127,000	102,000
Washington	162,836	253,000	209,000
West Virginia	136,241	137,000	111,000
Wisconsin	172,222	161,000	112,000
Wyoming	252,082	202,000	203,000
Puerto Rico	31,094	16,000	16,000
Mexico	911,609	1,447,000	6,113,000
Total	29,416,509	33,110,000	29,914,000

Agricultural Quarantine Inspection

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Alabama	183,944	189,000	194,000
Alaska	149,504	154,000	158,000
Arizona	640,766	659,000	677,000
California	2,469,629	2,539,000	2,607,000
Delaware	138,639	143,000	147,000
District of Columbia	739,205	760,000	780,000
Florida	2,356,958	2,423,000	2,488,000
Georgia	136,051	140,000	144,000
Hawaii	2,379,984	2,446,000	2,511,000
Illinois	335,238	344,000	353,000
Louisiana	751,686	773,000	794,000
Maine	96,218	99,000	102,000
Maryland	1,678,382	1,725,000	1,771,000
Massachusetts	444,953	457,000	469,000
Michigan	170,761	175,000	180,000
Minnesota	406,703	418,000	429,000
Mississippi	4,342	5,000	5,000
Missouri	1,518	2,000	2,000
New Jersey	347,367	357,000	367,000
New York	3,334,732	3,428,000	3,520,000
North Carolina	101,318	104,000	107,000
Ohio	117,841	121,000	124,000
Oklahoma	1,773	2,000	2,000
Oregon	181,988	187,000	192,000
Pennsylvania	381,782	392,000	402,000
Rhode Island	67,025	69,000	71,000
South Carolina	299,349	308,000	316,000
Tennessee	15,153	16,000	16,000
Texas	3,831,252	3,938,000	4,043,000
Utah	370	- -	- -
Virginia	572,314	588,000	604,000
Washington	344,062	354,000	363,000
Wisconsin	32,919	34,000	35,000
Mexico	9,197	10,000	61,000
Other Foreign	<u>1,303,522</u>	<u>1,340,000</u>	<u>1,376,000</u>
	24,026,445	24,699,000	25,410,000

ANIMAL DISEASE AND PEST CONTROL

Current activities: Nationwide programs are conducted to control and eradicate animal diseases. State and local agencies cooperate with the Department in protecting the livestock and poultry food-producing industries. Laws and regulations are administered to prevent the spread of diseases through interstate shipments of livestock and poultry and to insure the welfare and humane care of transported livestock. The welfare of certain laboratory animals, pets, exhibition animals and horses is protected. Miscellaneous disease conditions are diagnosed, examined, and controlled, as required.

An inspection and quarantine program is carried out to prevent communicable animal diseases of foreign origin from gaining entrance to this country. Cooperative Agreements, aimed at preventing, controlling and eradicating any communicable disease of animals which threaten the livestock, poultry and related industries of the United States are being entered into with many Western Hemisphere nations.

Selected Examples of Recent Progress:

Animal Health

1. Brucellosis Eradication

Cattle were culled (picked out) at a greatly increased rate during FY 1976, resulting in a sharp increase in brucellosis surveillance activities. Under the Market Cattle Identification (MCI) Program, there were 15.65 million samples tested from markets and slaughter establishments compared to 12.16 million in FY 1975. This represents a 28.7 percent increase over FY 1975 and a 74 percent increase over 1974. The MCI reactor rate dropped from 0.72 in 1975 to 0.66 during 1976. This marked the first decrease in the MCI reactor rate since the upward trend began in 1973.

This drastic increase in surveillance activities continued to increase the number of infected herds found. There were 16,910 infected herds found in FY 1976 as compared to 16,498 in FY 1975. The number of cattle tested on farms and ranches increased from 6.5 million in FY 1975 to 7.4 million in FY 1976. The number of herds that reacted to the Brucellosis Ring Test (BRT) in FY 1976 was 2,323 as compared to 2,450 in FY 1975. Of the 2,174 herds blood tested as a result of a positive BRT, infection was disclosed in 594 in FY 1976 as compared to 641 in FY 1975.

Strong support from the livestock industry in Tennessee, Georgia, Alabama, and Kentucky during FY 1976 has resulted in accelerated program activities being planned for these states during FY 1977 and FY 1978. Funding increases will allow the implementation of these activities to begin in Tennessee and Georgia during FY 1977.

The Department has increased its efforts to encourage use of calfhood vaccination in those states with relatively high incidence of bovine brucellosis. Vaccine and manpower have been made available as requested.

The percentage of sows and boars found to be reactors as a result of the Market Swine Testing (MST) Program declined from .04 percent in FY 1975 to .027 percent in FY 1976. The low reactor rate is accounted for by a large percentage (82 percent) of the 1.2 million MST samples being collected in states already validated free of the disease or in those where ongoing program activity has been successful in eliminating brucellosis from most of their swine herds. The number of Validated Brucellosis-free counties increased by 42 in FY 1976 to 736, and one state, South Dakota, achieved validated status during the year.

2. Screwworm

August 25, 1976, marked the dedication of a new \$14 million screwworm eradication facility at Tuxtla Gutierrez, Chiapas State, Mexico, by Mexican President Luis Echeverria and U.S. Secretary of Agriculture Earl L. Butz. The plant has the capacity to rear and sterilize over 300 million screwworm flies weekly. The first sterile flies from this plant were released over Baja, California the first week in September, 1976.

The Mexican plant at present is producing 200 million flies per week, building towards its capacity of 300 million, while its sister plant at Mission, Texas, is producing 190 million flies per week.

The basic strategy agreed upon by the U.S. Department of Agriculture and the Mexican Department of Agriculture calls for sterile fly production from both countries to be used in the eradication of screwworms from northern Mexico. Sterile flies produced at Mission will be used to cover areas in northern barrier zone, not covered by the production of sterile flies from the Tuxtla plant. When wild flies have been eliminated from the U.S. and northern Mexico, sterile screwworm flies from both plants will be released further south into Mexico, as to gradually push back native fly populations to the 125-mile-wide Isthmus of Tehuantepec in southern Mexico.

This will replace the current 2,000 mile barrier stretching along the U.S.-Mexico border, which is too long to be totally effective. Ultimately, this will end yearly invasions of the livestock pest into the southwestern United States.

3. Cattle Ticks

An increasing number of Boophilus tick infestations were discovered outside the established quarantine zone in Texas during FY 1976. Tick force personnel within the permanent quarantine zone were transferred to areas adjacent to the zone to eradicate the discovered infestations.

The establishment of surveillance, detection, and eradication procedures at markets and high risk areas adjacent to the quarantine zone were initiated in late FY 1976. Strengthening of these procedures will continue during FY 1977 and it is felt such procedures will effectively lower the number of infestations occurring outside the quarantine zone.

An eradication procedures manual was developed for use by the Tick Eradication Force in Texas in an effort to achieve uniformity in the application of program procedures. The cattle industry assisted in the development of this manual. Such cooperation between the involved groups is essential for two reasons 1) it provides the individual rancher an opportunity to develop an understanding of the procedures being employed to his animals, and 2) aids in securing the ranchers' cooperation with the program.

A study was initiated in FY 1976 to determine why certain infestations of cattle fever tick are not easily eradicated. The relationship between certain wildlife species considered potential carriers and Boophilus ticks is also being examined in the study. A manual entitled "Ticks of Veterinary Importance" was developed and published as Agriculture Handbook 485.

4. Hog Cholera

Outbreaks of hog cholera were confirmed in the states of Massachusetts, New Hampshire, New Jersey and Rhode Island during February, March and April of FY 1976. Two additional cases were confirmed during the Transition Quarter of FY 1976, one in Massachusetts (July 1976) and one in New Jersey (August 1976). Forty-five additional herds were depopulated because of exposure to these 18 infected herds. A total of 24,038 swine were depopulated in the 18 infected

and 45 exposed herds. Approximately \$9,000,000 in federal indemnity, additional national surveillance, and task force costs were obligated during this period.

Task force operations were effective in confining the infection to the 4-state area and eliminating the outbreaks. All swine in the involved 4-state area were inspected in an attempt to locate any residual infection. Eradication has been achieved and the quarantine imposed on these states has been lifted. Nonetheless, as a further precautionary measure intensive surveillance will be continued for at least another year. Intensive inspection of garbage feeders and markets was performed. Waste food feeders found to be feeding raw garbage were placed under state quarantine. Emphasis on garbage feeding operations will continue in the upcoming fiscal year.

5. Emergency Programs

During fiscal year 1976, five Regional Emergency Animal Disease Eradication Organizations (READEO's) were fully staffed and maintained to rapidly respond to outbreaks of emergency diseases. The Northern READEO was activated on two occasions to eradicate outbreaks of hog cholera in New Jersey and in the New England States of Rhode Island, Massachusetts, and New Hampshire. Each of these outbreaks was rapidly eliminated. Intensive surveillance was maintained in certain high-priority herds to ensure that eradication had been achieved. As a result of this intensive surveillance, two additional infected herds were disclosed; one in Massachusetts on July 17, 1976, and one in New Jersey on August 1, 1976. The READEO was again activated, and these outbreaks were rapidly and effectively eliminated.

The development of 10 foreign animal disease films was continued in cooperation with the Plum Island Animal Disease Center. One film was completed and distributed, and footage was made for nine additional films. These films are directed primarily toward professional audiences but will be useful in increasing public awareness of foreign animal diseases. An Air Force veterinary officer was assigned as Military Liaison Officer thus ensuring continued military liaison and support for Emergency Programs.

By the end of FY 1976, 11,092 articles covering 11 diseases had been read, indexed, coded, and placed in the Foreign Animal Diseases Data Bank in a rapidly retrievable form. During FY 1976, 580 articles were sent for translation and complete bibliographies on seven diseases were printed and distributed throughout the World.

6. Exotic Newcastle Disease

There were no reported cases of exotic Newcastle disease in commercial poultry, backyard flocks, or captive or wild game birds in fiscal year 1976 in the continental United States. The last case occurred in a small mixed poultry flock of 28 chickens in Pharr, Texas, on June 6, 1975. Increased effectiveness of surveillance activities, especially those associated with border inspection and import facilities, have accounted for this period of success. Several isolates have been made from birds which have been confiscated along the Mexican border and at import stations in the United States.

Exotic Newcastle disease still remains a world threat as demonstrated by the fact that at least 10 lots of commercial birds presented for entry in privately-owned quarantine stations were determined to be infected during fiscal year 1976.

The national surveillance program for exotic Newcastle disease has enjoyed good lines of communication with poultry and bird industries and practicing veterinarians. An advisory group to the Secretary of Agriculture for poultry health has been formulated. Its first meeting was held on October 5, 1976.

This group, representing all facets of industry, should furnish improved guidelines and direction for Veterinary Services programs in the future.

Puerto Rico remains under Federal quarantine for exotic Newcastle disease. USDA inspects passenger handbaggage and luggage on all air flights from Puerto Rico to the United States to remove live poultry and poultry products. Pit-hold baggage is inspected at the San Juan airport on flights originating in the Virgin Islands destined for the United States.

7. Poultry Diseases

Veterinary Services filled all official requests for reference material for mycoplasma received during fiscal year 1976. During fiscal year 1976 there were 181 shipments of referencing material made to 51 laboratories in 39 states.

During the spring of 1976 an ornithosis surveillance program in the turkey breeder flocks in Texas was voluntary. It appeared that the incidence and the likelihood of an ornithosis infected flock were diminished. No evidence in processing plant employees had been noted since April 1975. It was then determined that processing plant employees were ill in a plant in Gibbon, Nebraska. A breeder hen flock from a producer in Hico, Texas, was processed at the plant on June 15 and 16, 1976. Plant employees became ill beginning June 21 and 22 with symptoms suggestive of ornithosis. It was soon confirmed that the breeder flock from Texas had ornithosis and had exposed the plant workers at Gibbon.

The ornithosis certification program for Texas turkeys was again emphasized. To date no further evidence of ornithosis has occurred in processing plant employees.

Prior to the experiences with ornithosis in turkeys in Texas in 1974, ornithosis was considered to be a disease with a cyclical buildup occurring, for the most part, in 7 to 10-year cycles. It appears that ornithosis in commercial turkeys is on the increase and will necessarily require more attention from regulatory and health agencies than it has in the past.

8. Bovine Tuberculosis Eradication

The numbers of tuberculosis affected cattle herds continued to rise in FY 1976. There were 30 known affected herds in FY 1974, 47 in FY 1975, and 52 in FY 1976. To some extent, this rise in numbers of affected herds is due to improved epidemiology which can be related to the "task force" concept which was started in Georgia in FY 1975 to cope with a serious outbreak of tuberculosis in that state. In FY 1976, task forces were setup in Illinois, Indiana, and Nebraska to trace and tuberculin test tuberculosis-exposed cattle. (The Illinois outbreak in FY 1976 was totally unrelated to the outbreak in FY 1975.) These task forces were a cooperative effort involving both State and Federal personnel and established the value of such operations in the tuberculosis eradication program. One additional State, North Dakota, qualified for and was granted Accredited Free status in FY 1976. This brings the total number of States in this category up to 10.

Of the 52 tuberculosis affected herds revealed in FY 1976, 33 (63 percent) were depopulated with Federal indemnity. An additional four herds were depopulated in Illinois with State funds only. These four herds are not included in the 52 herds listed as tuberculosis affected because lesions from these herds were not laboratory confirmed as tuberculosis, either histopathologically or bacteriologically. In addition, another four of the 52 affected herds were depopulated due to the fact that all cattle in the herd were reactors to a tuberculin test.

The comparative-cervical (C-C) tuberculin test continues to be a very valuable tool in the eradication program in differentiating between M. bovis infected herds and herds sensitized to tuberculin for other reasons. The 7,301 cattle

tested with the C-C test in FY 1976 revealed 136 reactors, 48 of which showed lesions indicative of tuberculosis upon postmortem examination. Twelve of the 52 M. bovis herds were classified as such by the C-C test. An additional 108 veterinarians were trained to conduct the C-C test, for a total of 572 now trained. Every State, but Alaska, now has at least one veterinarian trained to conduct the test.

9. Interstate Inspection

During fiscal year 1976, 64,957 inspections were made at livestock markets, slaughtering establishments, feed lots and other concentration points for the purpose of supervising the health requirements of livestock moving in interstate commerce. As a direct result, 3,003 investigations of alleged violations of State and Federal animal health regulations were made with 380 alleged violations being developed for possible prosecution. The small proportion of violations disclosed indicates that the health regulations adopted to minimize the spread of domestic animal diseases are supported by the industry.

10. Scrapie

Mission, Texas, Field Trials

Scrapie has been confirmed by histological examination or by mouse inoculation in 90 nonbloodline animals between the ages of 31 to 113 months in field trials at Mission, Texas. These findings prove that scrapie spreads to sheep by direct exposure beginning at 3 to 9 months of age and more readily to lambs and kids born on infected premises. The long incubation period in some of these animals demonstrates the need for locating and slaughtering those animals which may have received minimal exposure or were exposed at older ages and consequently may develop the disease well beyond the normal age of scrapie manifestation.

Cooperative studies are being carried out at Mission, Texas, between the National Institutes of Health, Bethesda, Maryland, and Veterinary Services to test the susceptibility of sheep and goats to scrapie, kuru, Creutzfeldt-Jakob disease, and amyotrophic lateral sclerosis material. During FY 1976, two dairy goats and two Suffolk sheep developed clinical disease, confirmed by histology. These studies will continue during FY 1977 and are expected to provide additional information on the possible relationship of scrapie to chronic degenerative neurological diseases of man.

Eradication Program

A potentially dangerous situation to the sheep and goat industries of this country developed during FY 1976 as a result of an outbreak of scrapie in Oklahoma. A flock in Illinois has been designated the source flock for this outbreak, and a Federal quarantine was placed on the flock. This quarantine prohibits the future movement of sheep, thus providing the time needed to locate all exposed sheep and determine whether these exposed animals have spread the disease any further.

11. Animal Welfare

The Animal Welfare Act was amended by P.L. 94-279, dated April 22, 1976. Additional provisions specified by these Amendments include the responsibility for the humane care and treatment of all designated warmblooded animals, whether used for research purposes, exhibition, or sold wholesale as pets.

Surveillance of dog and cat shipments at major and terminal airports resulted in 164 apparent violations being reported. This represents a 41% reduction in the number of reported violations since FY 1975. Extensive publicity of these violations by the media has been a significant factor in improving the conditions for dogs and cats transportation by commercial carriers. Many of these

164 apparent violations resulted in letters of warning being issued to the violators. However, 22 cases were considered sufficiently severe to warrant legal action through administrative procedures. To date, three cases have been heard by the Department's Administrative Law Judges and decisions have been rendered in favor of the Department's case.

A 30 hour training course was developed for Department personnel in an effort to establish and maintain uniformity of interpretation of the rules, regulations, and standards of the Animal Welfare Act, and inspection procedures. Included within the course was a supervised on-site inspection of a registered facility and a licensee's premises. 350 veterinarians and animal health technicians actively participated in these courses.

12. Horse Protection

On December 9, 1970, Public Law 91-540, the Horse Protection Act, was signed into law and thereafter prohibited the movement in interstate commerce and/or the showing or exhibition of horses that are sored. The Horse Protection Act was amended in FY 1976 by P.L. 94-360, dated July 13, 1976. The amendments extended the Department's enforcement responsibilities to include horse auctions and sales. In addition, enforcement of the Horse Protection Act was statutorily strengthened by these amendments.

During FY 1976, 16 horse shows (32 inspection days/nights) were covered. Reported violations nearly doubled to 106 as a result of the use of thermography and improved inspection procedures. Using these improved methods the quality of alleged violations submitted for prosecution has improved significantly. The Tennessee Walking Horse industry continues to make progress, however, in its efforts to enforce the act through self-regulation. The "scar rule" initiated on 2 year olds in 1974, was extended to 3 year olds in 1975, and was further extended to include 4 year olds in 1976. The improvement in the appearance of the pastion area of all horses is strikingly evident and the image presented by horses in the show ring is also greatly improved, but the practice of soring by more sophisticated methods continues.

A clinic was conducted in cooperation with members of the Walking Horse Industry to determine the effects of certain training devices on horses. Infrared thermographic equipment and extensive physical examinations were utilized to determine whether these training devices were harmful. The findings from this clinic are still being reviewed, and the results should be completed and incorporated into the Federal Register by mid 1977. The majority of APHIS veterinarians that are assigned horse show inspection duties attended this clinic.

13. Import Animals

A total of 816,054 animals were passed for entry into the United States at land border, air and ocean ports of entry as opposed to 258,977 in FY 1975. Of these animals, 742,079 were cattle and 73,975 were swine, sheep, horses, and etc. This compares to 168,001 cattle and 90,976 others in FY 1975. 3,973,663 poultry were passed compared to 2,825,329 for 1975. Hatching eggs imported increased from 3,691,268 in FY 1975 to 4,239,225, and pet and commercial birds increased from 78,056 (figures for 3 quarters) to 167,449. These figures represent an 215% increase in cattle, and a 27% increase in poultry, eggs, and other birds. There were also 12,544 animals rejected for health or because they were accompanied by improper health certification as compared to 3,698 in FY 1975.

A total of 1,146 head of cattle were imported through the USDA operated animal import centers located at Clifton, New Jersey; Miami, Florida; and Honolulu, Hawaii, as compared to 1,058 head of FY 1975. A total of 1,500 equines were imported through these centers as compared to 1,884 equines for FY 1975. Eighty-seven zoological ruminants were imported through Clifton Animal Import Center as compared to 71 zoological ruminants in FY 1975. Ninety-eight head

of swine were imported through Clifton Animal Import Center and three head of swine through Honolulu Animal Import Center as opposed to a total of two in FY 1975.

Exotic breeds of cattle continue to be imported into the United States. During FY 1976 there were five shipments from Japan, four from Ireland, four from England, one from the Island of Eleuthera, two from the Island of St. Pierre, and one shipment from Norway. In the case of Norway, this was the first time such an importation was under the direct supervision of the veterinary service of the country of origin. Norwegian veterinarians collected test specimens for submission to Plum Island Animal Disease Center for FMD testing, conducted other diagnostic tests, and supervised the quarantine without the presence of a USDA veterinarian. New breeds represented in these importations include Charolais, Fleckvieh, Simmental, Limousin, Normand, Pie Rouge, Tarentaise, Chianina, Marchegiana, Saler, Norwegian Red, Murray Grey, Maine Anjou, Blonde d' Aquitaine, Gasconne, Meuse Rhine Issel, Gelbvieh, Kerry and Friesian.

Exotic breeds of swine were also imported into the United States. Two mixed shipments of large White and Landrace swine were imported from the Republic of Ireland. These swine were tested for brucellosis and tuberculosis 30 days prior to export and found negative. For 60 days prior to export these native Irish swine were not in contact with swine of lesser health status.

There were five shipments consisting of 430 head of cattle of exotic breeds imported through a third country. The project involved the importation of cattle from a country free of foot-and-mouth disease (FMD) which originated in a country declared to be affected with FMD by the U.S. Department of Agriculture. The countries involved are France-Japan-United States and France-St. Pierre-United States.

Cattle imported into the United States through third countries are imported only under severe restrictions which require the presence of a U.S. veterinary observer in the country of origin (France in this case) while the required tests are conducted, herd history records are checked, and during quarantine. The U.S. observer's presence is also required while the animals are in quarantine and the required tests are conducted in the third country (Japan in this case). Tests for FMD, tuberculosis, and brucellosis with negative results are required both in the country of origin and the third country.

In October 1975, a semen importation project involving semen from West Germany was concluded. This project started in May 1975 under the supervision of a USDA veterinarian; the importer had previously been involved in two other semen importations from West Germany. A total of 97,445 doses were imported. A total of 635,965 doses of bovine semen were imported from Canada. A total of 13,030 doses of bovine semen were imported from Australia and 1,500 doses from New Zealand.

The bird import regulations were amended, making it possible to use any of the three U.S. Department of Agriculture operated facilities for purposes of quarantine when importing either commercial or zoological shipments of birds. An additional 11 privately operated bird quarantine facilities were approved, bringing the total number of such facilities to 32.

During fiscal year 1976, 11 lots of birds were refused entry when isolations of exotic Newcastle disease virus were made, two lots were refused entry when a hemagglutinating virus pathogenic for chickens and/or turkeys was isolated. During the first 2 months of the transition period, 11 lots of birds were refused entry for exotic Newcastle disease. In addition to the above 24 lots of birds, 1 lot of poultry (francolins) was found to be affected with a Newcastle virus.

Regulations pertaining to the importation of birds from Canada were amended, eliminating the period of quarantine for birds which have been in Canada for at

least 90 days. This amendment was possible because Canada is free of exotic Newcastle disease and has import requirements for birds similar to our own.

Honolulu Animal Import Center is being expanded by the addition of two new barns with 11 stalls each and an incinerator. This will increase the capacity from 6 stalls to 28 stalls. The design of the buildings is completed and a construction contract should be awarded by September 30, 1976. These new additions will increase the capacity of the present small station and better enable importers to import livestock into the United States. The addition of the new incinerator will provide a safe means of disposing of solid wastes.

14. Export Animals

Through consultation with veterinary officials of other countries, there were 37 new health agreements made for the exportation of livestock, poultry, and bovine semen from the United States. Veterinary Services jointly sponsored with ARS and FAS a livestock air transportation seminar which resulted in the identification of transportation problems associated with moving livestock by air and provided direction for research leading toward their solution. From this meeting was established the Animal Air Transportation Association with active participation by government and industry in the facilitation of safe and humane air movement of animals.

Overseas exports of animals increased slightly in FY 1976. (APHIS provides inspection services for overseas exports and not for exports to Canada and Mexico.) Total overseas export of livestock for FY 1976 was 36,313 compared to 35,832 in FY 1975. FY 1976 exports include 24,567 cattle, 6,031 swine, 3,171 goats and sheep, and 2,544 horses. Comparative figures for FY 1975 are: 24,203 cattle, 5,648 swine, 1,556 sheep and goats, 4,381 horses and 44 others. Export operation from the Stewart Animal Import Center, Newburgh, New York began June 4, 1976 with 7 shipments completed during the 1976 Transition Quarter.

Veterinary Biologics

Current Activities: Under the Virus-Serum-Toxin Act, efforts are directed at preventing the production and inter-state distribution of worthless or harmful veterinary biologics.

Selected Examples of Recent Progress

1. Regulatory Operations

At the completion of FY 1976 there were 39 domestic producers and 1 importer licensed to market veterinary biologics. During the year 11,711 serials of veterinary biological products were produced. Licensees are required to conduct a variety of tests on each serial lot prior to submitting the serial to the Department for release. The Department also conducts check-tests on a portion of the serial lots to ascertain suitability for marketing. Overall, 1037 of these serials (8.8%) were withheld from the market due to unsatisfactory test results.

Thirty-one inspections of licensed establishments were also conducted to evaluate compliance with regulations.

Procedures to follow up on consumer complaints and on alleged violations of the Virus-Serum-Toxin Act have been strengthened by the delineation and reassignment of responsibilities, and the establishment of a central control file.

2. Biologics Laboratory Activities

The evaluation of biologics used to help prevent shipping fever (a disease condition of feedlot cattle) was actively pursued by Veterinary Services Laboratories (VSL) during FY 1976. Efforts related with this task included tests on

two newly developed vaccines against bovine rhinotracheitis (rednose), and the evaluation of products used to protect against infection with Pasteurella.

Seven new reference or reagent preparations were developed at VSL during FY 1976. Newly replenished stocks of 27 others were prepared and thoroughly tested.

3. Licensing Activities

During FY 1976, the number of licensed establishments declined slightly from 41 to 39. Two new establishment licenses were issued and there were 15 changes in existing establishment licenses. A total of 640 products were manufactured and distributed by the domestic and importer licensees. Product licenses and permits covering 261 generic products prevent, detect or treat 86 animal diseases. 39 product licenses were issued to licensees that had not previously had licenses for these products.

Five standards requirements were updated and two new standard requirements were issued. 18 standard requirements were revised for clarity or scientific accuracy or for correction of printing errors. Two changes in test procedures for bacterial and mycoplasma contamination were made and one new safety test was added. Changes in the production and testing regulations were made including the clarification of policy for separation of establishments, production of unlicensed products, and subsidiary restrictions. Other policy changes included sampling requirements, testing interpretation, and preclicensing testing.

Geographic Distribution of Obligations:

<u>Animal Health</u>	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Alabama	1,776,198	2,042,600	2,296,000
Alaska	63,290	72,800	81,800
Arizona	493,755	567,800	638,200
Arkansas	1,794,221	2,063,300	2,319,300
California	1,605,404	1,846,100	2,075,100
Colorado	824,052	947,600	1,065,200
Connecticut	90,350	103,900	116,800
Delaware	37,262	42,800	48,100
District of Columbia	2,707,539	3,113,600	3,499,900
Florida	3,126,505	3,595,300	4,041,400
Georgia	2,101,828	2,417,000	2,716,900
Hawaii	170,956	196,600	221,000
Idaho	1,056,747	1,215,200	1,391,000
Illinois	1,180,857	1,357,900	1,551,400
Indiana	1,128,690	1,297,900	1,458,900
Iowa	4,505,757	5,181,400	5,883,200
Kansas	1,048,019	1,205,200	1,354,700
Kentucky	1,485,159	1,707,900	1,919,800
Louisiana	2,000,001	2,299,900	2,585,200
Maine	208,571	239,800	294,600
Maryland	8,441,200	9,707,000	10,970,300
Massachusetts	202,967	233,400	262,400
Michigan	732,136	841,900	1,005,400
Minnesota	1,953,807	2,246,800	2,584,600
Mississippi	2,518,278	2,895,900	3,255,200
Missouri	1,450,113	1,667,600	1,874,500
Montana	573,409	659,400	805,200
Nebraska	855,302	983,600	1,105,600
Nevada	243,788	280,300	315,100
New Hampshire	52,871	60,800	93,300
New Jersey	165,485	190,300	213,900

Animal Health--Continued

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
New Mexico	520,971	599,100	673,400
New York	634,156	729,300	1,051,800
North Carolina	495,342	569,600	640,300
North Dakota	376,927	433,500	650,300
Ohio	501,908	577,000	724,800
Oklahoma	2,788,751	3,206,900	3,604,800
Oregon	350,969	403,600	453,700
Pennsylvania	500,834	575,900	674,300
Rhode Island	24,929	28,700	32,300
South Carolina	511,030	587,700	660,600
South Dakota	557,742	641,400	830,000
Tennessee	3,158,867	3,632,600	4,083,300
Texas	21,161,272	24,334,600	27,353,700
Utah	433,646	498,700	560,600
Vermont	473,638	544,700	721,300
Virginia	424,326	488,000	548,500
Washington	356,493	410,000	586,900
West Virginia	336,236	386,700	434,700
Wisconsin	1,075,628	1,236,900	1,451,000
Wyoming	397,373	457,000	551,700
Puerto Rico	----	----	259,000
Mexico	10,293,498	11,837,100	13,305,700
Foreign Countries	2,017,828	2,320,400	2,608,300
Total <u>a/</u>	91,986,881	105,781,000	120,505,000

Veterinary Biologics

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Alabama	400,069	426,800	521,600
Alaska	232,113	247,600	302,600
California	142		
Colorado	11,213	12,000	14,700
Connecticut	43	----	----
Delaware	2,680	2,900	3,500
District of Columbia	134,814	143,800	175,700
Georgia	1,150	1,200	1,500
Illinois	5,048	5,400	6,600
Indiana	74,690	79,700	97,400
Iowa	3,696,924	3,827,300	4,677,300
Kansas	12,660	13,500	16,500
Maine	110	----	----
Maryland	81,515	87,000	106,300
Minnesota	61,318	65,400	79,900
Mississippi	3,287	----	----
Nebraska	----	121,000	147,900
New Jersey	5,870	6,300	7,700
New York	30,559	32,600	39,800
Oklahoma	55,906	59,600	72,800
Pennsylvania	6,794	7,200	8,800
Texas	7,682	8,200	10,200
Wisconsin	14,054	15,000	18,300
Nevada	107,324	114,500	139,900
Total	4,945,965	5,277,000	6,449,000

a/ Does not include repayment to CCC in FY 1976 of \$2,550,000, \$833,000 in FY 1977 and \$4,460,000 in FY 1978.

CONSTRUCTION OF FACILITIES

1. Veterinary Biologics Laboratory - \$580,000 was appropriated in FY 1973 for planning and design of a Veterinary Biologics Laboratory. During FY 1974, 153 acres of land, adjacent to and south of the present National Animal Disease Center, Ames, Iowa, were acquired by the City of Ames and deeded to the Federal Government at no cost for the purpose of constructing a new Veterinary Biologics Laboratory. In FY 1975, \$9,600,000 was appropriated for further planning and construction of this facility. This will eventually house biologics testing conducted at six separate facilities in Ames. Final working drawings and specifications were completed in April, 1976, by the architectural firm of Brooks, Borg, and Skiles. Invitations for bids on the construction contract were advertised in May, 1976. Bids were received June 17, 1976 and the firm of James Thompson and Sons, Ames, Iowa was awarded the construction contract on June 25, 1976. Construction is scheduled for completion in late June, 1978 with final inspection and corrections to be completed in late July, 1978.
2. Fleming Key Animal Import Center - Public Law 91-239, approved May 6, 1970, authorized the Secretary of Agriculture to establish and maintain an international animal quarantine station on an island within the territory of the United States. A Use Agreement with the Department of the Navy was signed January 1, 1972, for use of a portion of Fleming Key, Florida, as a site for the construction of the station. \$300,000 was appropriated in FY 1973 for planning and design of the facility and the remaining \$6,700,000 for further planning and construction was appropriated in FY 1975. The firm of Henningson, Durham, and Richardson, Inc. was awarded an architect/engineering contract on August 16, 1974. Invitations for bids on the construction contract were advertised June 2, 1976. On July 20, 1976 the low bid received was in excess of remaining funds available for construction. The architect-engineer redesigned the building to reduce the construction costs and invitations for bids were readvertised on November 15. Bids are to be opened by the Department in late December, 1976. The final Environmental Impact Statement has been completed and approved by the President's Council on Environmental Quality. Operation of the facility is expected to begin in FY 1978.
3. Stewart Animal Import Center - Public Law 88-592, approved September 12, 1964, authorized the sale of the Animal Quarantine Station at Clifton, New Jersey, to the City of Clifton, and application of the proceeds of sale to the planning and construction costs of a new station in the New York-New Jersey port and airport area. The Department, on September 5, 1975, signed a 40 year lease agreement with the Metropolitan Transportation Authority (MTA) of the State of New York for 75 acres located at Stewart Airport, Newburgh, New York. Criteria for design and construction have been developed. The architect-engineering firm of Haines, Lundberg, and Waehler was commissioned to design this facility on January 8, 1976. Final design is due July, 1977 with the award of construction contract estimated to be December, 1977. Construction will take approximately eighteen months.

Stewart Airport is comprised of approximately 11,500 acres. The facility will be located near the existing runway. MTA plans to extend the existing 8,000 foot runway an additional 4,000 feet. This will enable a ramp to be extended to the facility for the offloading of animals into the facility.

CONTINGENCY FUND

The releases from the Contingency Fund for control of pests and other emergency outbreaks of insects, plant diseases, and animal diseases are shown below. In FY 1976 \$1 million was reserved for plant and related insect pests and an additional \$1 million was reserved for animal diseases and pests.

	Obligations (in thousands) <u>FY 1976</u>
<u>Plant disease and pest control:</u>	
Citrus blackfly.....	803
Grassbug.....	34
Mediterranean fruit fly.....	573
Oat cyst nematode.....	25
Oriental fruit fly.....	25
Range caterpillar.....	<u>40</u>
Total, Plant disease and pest control.....	1500
<u>Animal disease and pest control:</u>	
Ornithosis.....	<u>140</u>
Total, animal disease and pest control.....	140
 Total obligations or estimate.....	1640
Unobligated balances.....	<u>860</u>
Total, available, Contingency Fund.....	<u><u>2500</u></u>

(b) Animal Quarantine Station

PROJECT STATEMENT

Project	:	1976	:	1977	:	1978
	:		:	(estimated)	:	(estimated)
Construction of Animal Quarantine Station.....	:	--	:	\$520,660	:	--
Unobligated balance, start of year..	:	-\$ 94,060	:	-194,060	:	--
Unobligated balance, end of year...	:	194,060	:	--	:	--
Total available or estimate.....	:	100,000	:	326,600	:	--

STATUS OF PROGRAM

Public Law 88-592, approved September 12, 1964, authorized the sale of the Animal Quarantine Station, at Clifton, New Jersey, to the City of Clifton and application of the proceeds of sale to the planning and construction costs of a new station in the New York-New Jersey port and airport area. A sales contract between the Department and the City of Clifton was executed at the appraised value of \$527 thousand. Of that amount, \$100 thousand was paid to the Department upon execution of the contract. An additional \$100 thousand was paid to the Department in FY 1976 upon award of an architect-engineering contract for development of design and construction plans for a new quarantine station at Stewart Airport, Newburgh, New York. The balance will be paid upon publication of bids for construction at Stewart Airport. In 1970, an additional \$1.5 million was appropriated for the construction of the new quarantine station.

A total of \$6 thousand has been spent by the Department on surveys and related costs associated with obtaining a new location. The Department signed a lease for Stewart Airport on September 5, 1975. The architect/engineering firm of Haines, Lundberg, and Waehler has been selected to perform designing and planning functions.

Additional information on this item may be found on page 186.

(c) Miscellaneous Trust Funds

PROJECT STATEMENT

	: 1976 :	1977 :	: Increase or :	1978 :
	:	(estimate) :	: Decrease :	(estimate) :
1. Expenses and Refunds,	:	:	:	:
inspection, certification	:	:	:	:
and quarantine of animal	:	:	:	:
products.....	\$ 514,665:	\$1,137,000:	\$+113,000:	\$1,250,000
2. Expenses, feed and attendants :	:	:	:	:
for animals in quarantine....	675,956:	760,000:	+ 74,000:	834,000
3. Miscellaneous contributed funds	519,146:	583,000:	+ 57,000:	640,000
Total obligations.....	1,709,767:	2,480,000:	+244,000:	2,724,000
Unobligated balance available,	:	:	:	:
start of year.....	-712,541:	-608,699:	+ 52,000:	-556,699
Unobligated balance available end :	:	:	:	:
of year.....	659,239:	556,699:	- 57,000:	499,699
Total available or estimate.....	1,656,465:	2,428,000:	+239,000:	2,667,000
Breakdown by project:	:	:	:	:
Meat and poultry inspection...	432,422:	489,000:	+ 48,000:	537,000
Plant disease and pest control:	166,132:	182,000:	+ 19,000:	201,000
Animal disease and pest control	1,057,911:	1,757,000:	+172,000:	1,929,000

STATUS OF PROGRAM

Expenses and Refunds, Inspection, Certification, and Quarantine of Animal Products

This trust fund account provides for (a) inspection and certification of animal foods and inedible agricultural products in interstate and foreign commerce, (b) identification and marking of divided portions of meat, meat by-products, and meat food products, and meat food products previously federally inspected and so marked in order that divided portions will bear Federal marks; and (c) examination of meat and meat food products in federally inspected meat packing plants for compliance with contract specifications. These services are of a voluntary nature. They are performed on the basis of requests from organizations or individuals requesting the service and fees are charged for the service.

Expenses, Feed, and Attendants for Animals in Quarantine

The Secretary of Agriculture has been authorized to quarantine animals and poultry at ports designated for such purposes. It is required that all cattle, sheep, goats, other ruminants, swine, poultry and in some cases equine stock, offered for entry into the United States from other countries be held in quarantine at the first port of arrival for veterinary inspection in order to determine their freedom from disease.

A schedule of fees is maintained for the care, feed and handling of the animals or poultry while in quarantine. Under present law, the Agency does not charge for the inspection service.

The Department operates three Government owned quarantine facilities, Clifton Animal Import Center, Clifton, New Jersey, for the port of New York, Miami Animal Import Center, Miami, Florida and Honolulu Animal Import Center, Honolulu, Hawaii.

Miscellaneous Contributed Funds, APHIS

This trust fund account was established to provide an account for the deposit of funds from non-federal sources made in payment of services provided by APHIS under cooperative agreements. Each cooperative agreement provides for specific payment of funds in consideration of work to be performed or services rendered. The use of a cooperative agreement is limited to those projects where there is genuine mutuality of operations and objectives, although there may be a difference in the scope of interest. Agreements may be entered into with States, local organizations, and individuals for plant and animal quarantine inspection, and cooperative plant and animal disease and pest control activities.

Animal and Plant Health Inspection Service
Passenger Motor Vehicles

The 1978 Budget Estimates propose acquisition of seven additional sedans and replacement of 160 of the present 672 passenger motor vehicles. All vehicles are being fully utilized and those scheduled for replacement will either be over six years old or have 60,000 miles on them. Five additional sedans will be used for the cooperative Mediterranean fruit fly detection program to be initiated in FY 1977. Two additional sedans are needed for the boll weevil trial eradication program that is being initiated in FY 1978 in the States of North Carolina and Virginia.

Approximately 96 percent of the vehicles owned by the Animal and Plant Health Inspection Service are used in daily farm-to-farm travel for the control and eradication of tuberculosis, brucellosis, screwworms, sheep scabies, cattle tick fever, hog cholera, and various plant pest control programs. About four percent of the vehicles are used for travel related to animal and plant quarantine work. Frequently, they are operated over rugged roads and terrain and under adverse weather conditions. Maintaining these vehicles in safe, dependable operating condition is expensive, but essential. The control and eradication activities, testing and inspection cannot be done without their use.

The requested replacements will be substituted for those cars which have become uneconomical to continue to operate because of their age, mileage or both.

Age and Mileage Data for passenger-carrying vehicles on hand as of June 30, 1976:

<u>Age-Year</u> <u>Model</u>	<u>Age Data</u>		<u>Lifetime</u> <u>Mileage</u> (thousands)	<u>Mileage Data</u>	
	<u>Number of</u> <u>Vehicles</u>	<u>Percent</u> <u>of Total</u>		<u>Number of</u> <u>Vehicles</u>	<u>Percent</u> <u>of Total</u>
1968	2	--	over 100	25	4
1969	5	1	80 - 100	67	10
1970	21	3	60 - 80	127	19
1971	64	10	40 - 60	151	22
1972	1	--	20 - 40	126	19
1973	233	35	Under 20	172	26
1974	167	25			
1975	69	10			
1976	106	16			
Totals	668	100		668	100

AIRCRAFT

The 1978 Budget Estimates propose the acquisition of two additional aircraft and the replacement of two of the aircraft presently maintained by the Agency.

Additional Aircraft

The two additional aircraft will be used by the U.S.-Mexico screwworm eradication program as observation planes. They will fly behind the planes which are releasing the sterile screwworm flies, monitor the procedure to insure proper delivery and gather data obtainable only by inflight observation.

The data collected by the observation planes will allow us to evaluate the technique of the fly release system currently used and modify it, if necessary, to achieve greater effectiveness in the release procedure.

Although the procurement of these aircraft was authorized in FY 1977, the purchase of them will be delayed until FY 1978.

Replacement

The two aircraft for replacement will be utilized primarily in plant pest control operations. Of the seven planes designated for use by the Plant Protection Program, three have more than one thousand hours on each engine. Two of these planes are 1973 models and one a 1971 model. The remainder were built prior to 1970. These aircraft are sometimes used to supervise and observe contract planes which are newer, faster models than the ones we have available. This replacement authority is requested each year in the appropriation act. However, the aircraft will be replaced only if necessary to maintain the fleet in safe and efficient operating condition.

In addition to making aerial surveys and aerial application tests, the planes are used for insect trapping operations and for demonstrating the use of special equipment for suppression of destructive insects attacking crops

COOPERATIVE STATE RESEARCH SERVICE

Purpose Statement

The Cooperative State Research Service was established by Secretary's Memorandum No. 1462, dated July 19, 1961, and Supplemental 1, dated August 31, 1961, under Reorganization Plan No. 2 of 1953.

The primary function of the Service is to administer Acts of Congress that authorize Federal appropriations for agricultural research carried on by the State agricultural experiment stations of the 50 States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia; by approved schools of forestry; 1890 Institutions and Tuskegee Institute; and nonprofit institutions.

Administration of payments and grants involves the review and approval in advance of each individual research proposal submitted by a State agricultural experiment station or other institution to be financed in whole or in part from Federal grant funds and the disbursement of the funds. The research programs and expenditures are continuously reviewed and evaluated by the Cooperative State Research Service. The Service also encourages and assists in the establishment and maintenance of cooperation within and between the States, and participates in the planning and coordination of research programs between the States and the U. S. Department of agriculture.

The program coordination and planning is carried out by a Cooperative State Research Service staff located entirely in Washington, D. C. As of October 31, 1976, there were 84 full-time permanent employees and 9 other than permanent employees.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

Item	Actual		Estimated		Budget Estimate	
	1976		Available, 1977		1978	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Cooperative State						
Research Service	\$114,460,000	86	\$126,765,000 ^{a/}	90	\$136,687,000	95
<u>Obligations under other</u>						
<u>USDA appropriations:</u>						
Various research						
agencies sharing cost						
of Current Research						
Information System						
(CRIS)	242,553	6	287,500	7	287,500	7
Agricultural Research						
Service:						
Minor use pesticide						
coordination	- -	- -	75,000	- -	- -	- -
Competitive grant						
research program ..	- -	- -	- -	- -	600,000	15
Total, Agriculture						
Appropriations ..	114,702,553	92	127,127,500	97	137,574,500	117
<u>Other Federal Funds</u>	2,372,472	- -	1,649,850	- -	1,622,850	- -
<u>Non-Federal Funds</u>	122,796	3	148,750	4	148,750	4
Total, Cooperative State						
Research Service	117,197,821	95	128,926,100	101	139,346,100	121

End-of-Year Employment:	1976	1977	1978
	<u>Actual</u>	<u>Estimated</u>	<u>Estimated</u>
Permanent full-time ...	86	90	105
Other ^{b/}	12	13	13
Total	<u>98</u>	<u>103</u>	<u>118</u>

- ^{a/} Excludes proposed supplemental of \$2,257,000 for Pesticide Impact Assessment Program.
- ^{b/} Excludes one youth programs or developmental position under the Worker-Trainee Opportunity Program.

Cooperative State Research Service

Appropriation Act, 1977	\$126,652,000
Budget Estimate, 1978	<u>136,687,000</u>
Increase in Appropriation	<u>+10,035,000</u>
Adjustments in 1977	
Appropriation Act, 1977	\$126,652,000
1977 Supplemental Appropriation for pay costs ..	<u>113,000</u>
Adjusted base for 1978	126,765,000
Budget estimate, 1978	<u>136,687,000</u>
Increase over adjusted 1977	<u>+9,922,000</u>

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increase or Decrease</u>	<u>1978</u>
Payments to agricultural experiment stations under the Hatch Act, and for penalty mail	\$97,973,000	+\$8,093,000	\$106,066,000
Contracts and grants for scientific research .....a/	17,852,000	+1,361,000	19,213,000
Federal administration (direct appropriation):			
Annualization of the pay cost increase effective in 1977	113,000	+3,000	116,000
GSA space rental costs	142,000	+11,000	153,000
Working Capital Fund Services	(116,000)	+7,000	7,000
Pesticide Impact Assessment Program	- -	+447,000	447,000
All other	<u>973,000</u>	- -	<u>973,000</u>
Total, Federal administration .a/	1,228,000	+468,000	1,696,000
All other	<u>9,712,000</u>	- -	<u>9,712,000</u>
Total available	<u>126,765,000</u>	<u>+9,922,000</u>	<u>136,687,000</u>

a/ Excludes proposed supplemental of \$2,257,000 for Pesticide Impact Assessment Program (Contracts and grants for scientific research, \$1,810,000 and Federal administration (direct appropriation), \$447,000).

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1976	1977 :(estimated):	Increase or Decrease	1978 :(estimated)
1. <u>Payments to agricultural experiment stations under the Hatch Act, and for penalty mail:</u>				
a. Research program	\$81,920,360:	\$94,801,701:	+\$7,850,210	\$102,651,911
b. Penalty mail	470,940:	476,000:	- -	476,000
c. Set-aside for Federal administration (3%) ..	1,892,683:	2,695,299:	+242,790	2,938,089
Total, Hatch Act ..	84,283,983:	97,973,000:	+8,093,000(1):	106,066,000
2. <u>Cooperative forestry research</u>	7,462,000:	8,212,000:	- -	8,212,000
3. <u>Contracts and grants for scientific research</u>	19,546,000:	17,852,000:	+1,361,000(2):	19,213,000
4. <u>Funds for rural development research:</u>				
a. Research program	1,440,000:	1,440,000:	- -	1,440,000
b. Set-aside for Federal administration (4%) ..	30,000:	60,000:	- -	60,000
Total, Rural Development	1,470,000:	1,500,000:	- -	1,500,000
5. <u>Federal administration (direct appropriation)</u> ..	1,018,000:	1,228,000:	+468,000(3):	1,696,000
Unobligated balance	680,017:	- -	- -	- -
Total available or estimate ..	114,460,000:	126,765,000:	+9,922,000	136,687,000
Proposed supplemental for pay costs	- -	-113,000:		
Total appropriation	114,460,000:	126,652,000:		

a/ Excludes proposed supplemental of \$2,257,000 for Pesticide Impact Assessment Program (Contracts and grants for scientific research, \$1,810,000 and Federal administration (direct appropriation), \$447,000).

EXPLANATION OF PROGRAM

The appropriation "Cooperative State Research Service" funds the activities authorized under the following acts:

1. Payments to agricultural experiment stations under the Hatch Act, and for penalty mail - (Agricultural Experiment Stations Act of August 11, 1955 (Hatch Act of 1887 as amended - 7 U.S.C. 361a-361i), Education Amendments of 1972, P. L. 92-318, June 23, 1972, and P. L. 93-471, October 26, 1974).

a. Research Program: The Hatch program of research at the State agricultural experiment stations is aimed at improving rural living conditions and promoting efficient production, marketing, distribution and utilization of crops and animals that are essential to the food supply or health and welfare of the people of the United States. Six research program groupings encompass the range of research funded under this act:

Natural Resources - 12% of total Hatch funds for research. Included are soil and land use, water and watersheds, outdoor recreation, environmental quality, fish and wildlife, and remote sensing.

Forestry Resources - 2% of total Hatch funds for research. Forestry related research under Hatch is closely coordinated with the McIntire-Stennis Cooperative Forestry Research program which has similar research objectives. The Hatch forestry research program is characterized by a higher degree of multi-institutional or regional projects.

Crops Resources - 35% of total Hatch funds for research. Included under this research program grouping are crop protection and production systems for dependable and efficient production, quality improvement, quality maintenance, product development and related commodity aspects of marketing of crops.

Animal Resources - 28% of total Hatch funds for research. Included under this research program grouping are protection, production and management aspects of beef and dairy cattle, swine, sheep, other animals and poultry. It also includes quality improvement, product development, and related commodity aspects of marketing.

People, Communities and Institutions - 14% of total Hatch funds for research. Included under this research program grouping are food and nutrition, food safety and rural development.

Competition, Trade Adjustments and Income Policy - 9% of total Hatch funds for research. Included under this research program grouping are farm adjustments, prices and income, economic aspects of marketing and competition.

b. Penalty Mail: The Hatch Act of 1887, as Amended (7 U.S.C. 361f), provides for the mailing under penalty indicia by agricultural experiment stations of bulletins, reports, periodicals, reprints of articles, and other publications necessary for the dissemination of results of research, including lists of such publications.

Mailings include not only those to individual farmers upon request but also to newspapers, libraries, other experiment stations, and organizations interested in results of research and dissemination of such results. Under Title 39 U.S.C. 3206(b) and 3202(a)(4), the Department pays the U. S. Postal Service to cover postage of mail sent under the penalty privilege by the State agricultural experiment stations.

c. Set-aside for Federal Administration: Three percent of funds appropriated under the Hatch Act is set aside for Federal administration. Administration includes disbursement of funds and a continuous review and evaluation of the research programs of the State agricultural experiment stations supported wholly or in part from Hatch funds. This Agency encourages and assists in the establishment of cooperation within and between the States, and also actively participates in the planning and coordination of research programs between the States and the Department at the regional and national level.

2. Grants for Cooperative Forestry Research - (Cooperative Forestry Research Act of October 10, 1962 (16 U.S.C. 582a--582a-7), Education Amendments of 1972, P. L. 92-318, June 23, 1972).

Research funded under this act is described within the following areas: inventory and appraisal of forest resources; forest production systems and

management; forest protection; harvesting, manufacturing, and wildlife; fisheries habitat development; forest recreation and landscape values; and alternative uses of forest land. Timber production and wood utilization and distribution systems are key elements of forestry research. The research is planned and directed to provide answers to the complex questions that face forest land managers who are seeking to produce an adequate timber supply for home and other construction. The research also meets the demands for wildlife production and recreational opportunity on forests, and to assure an acceptable level of environmental quality in relation to all forest operations and uses.

3. Contracts and Grants for Scientific Research - (Act of September 6, 1958 (42 U.S.C. 1891-1893), and the Act of August 4, 1965 (7 U.S.C. 450i)).

This program provides special concentration on problems of national interest where such concentration is desirable or necessary beyond the normal emphasis in the formula grant program. The grants which are approved for a maximum of five years have two components: A specific research program which places major research emphasis on specific national problems identified by the Department and by the Congress, and a specific research program for 1890 Land-Grant Institutions and Tuskegee Institute. Under the specific grant component which is directed to major national needs, research on food and agriculture policies; beef and pork production; soybeans; pest management; transportation, marketing and storage; forage, pasture and range; genetic vulnerability; and pesticide clearance have received emphasis in FY 1977. Under the program of support to 1890 Institutions and Tuskegee Institute, emphasis is on research to aid disadvantaged rural people and small farmers.

4. Funds for Rural Development Research - (Rural Development Act of 1972 (7 U.S.C. 2661-2668) as amended by P.L. 94-259, April 5, 1976.)

a. Research Program: Grants under the Rural Development Act of 1972 are allotted to land-grant colleges and universities of the 50 States and Puerto Rico to conduct pilot research programs in support of the development of rural areas. This program provides the opportunity to utilize and build upon the research, extension and community service capability of public and private institutions of higher education in each State to expand scientific inquiry and educational backup for rural development. The higher educational and research institutions in each State including the 1890 Land-Grant Institutions are authorized to assist in developing and disseminating scientific information, technical assistance and feasibility studies required to improve the rural development capabilities of local citizens, agencies and governments.

b. Set-aside for Federal administration: Four percent of funds appropriated under the Rural Development Act is set aside for Federal Administration. This includes disbursement of funds and review and evaluation of proposals. The review and evaluation includes consideration of the legislative requirements, of the quality of the proposal, and of potential impact of the research proposed on rural communities.

5. Federal Administration (direct appropriation) - Authority for direct appropriations is provided in the annual USDA and Related Agencies Act.

These funds are used to provide support services in connection with research planning and coordination of all programs administered by the Cooperative State Research Service. The Service provides adequate monitoring of all projects, both in the proposal stage and during the conduct of the research.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$8,093,000 under the formula provision of the Hatch Act to conduct research on beef cattle, feed grains, soybeans, and forage, pasture and range (including an increase of \$242,790 for administration of the Hatch Act). (\$97,973,000 available in 1977.)

Need for Increase: The demand for beef is rising and the quantity needed is expected to increase substantially. However, without needed research American agriculture will likely not have the capacity to produce the anticipated supply needed for domestic and export needs. Research on reproductive problems is necessary to produce more meat from fewer breeding cattle. Also diseases, particularly respiratory and enteric diseases, must be more intensely studied to develop means of disease control and disease resistance.

The world looks to the northern part of the western hemisphere for production of feed grains in excess of its needs. This area, except for Australia and New Zealand, is the only area that consistently produces more feed grains than it consumes, therefore additional research is needed to improve yields, and reduce losses to insects, weeds, diseases and adverse weather conditions.

Soybeans are an international commodity and valuable source of oil and high quality plant protein. Research is needed to increase yields of soybeans to meet important food and feed needs in the United States and to meet increased competition in international trade.

America's pastures and ranges are insufficient in carrying capacity to support the expanded beef production needed in the future. Also its forages must be studied intensely to develop the levels of yields and quality of forage for the nation's livestock. Additional research is needed on pasture and range rejuvenation and moisture use and on forage, pasture and range management to develop the necessary yields of quality grazing and feed for livestock. Improvement in quantity and quality of harvested forage is essential to substitution of forage for grain in finishing beef animals. Research is necessary to reduce needs for feed grains and high protein supplements - thus reduce competition for feed grains and soybeans needed to meet export sales demands and also utilize more of the land for growing forage that is not well suited for cultivated crops.

Plan of Work: Beef production research will center on ways to produce more meat from fewer breeding animals through increased embryo survival, rapid return to pregnancy, and increasing multiple births. Genetic studies will emphasize developing cattle of superior reproductive capacity. Basic studies are planned on mechanisms of disease resistance, nutrition effects, and control of enteric and respiratory diseases.

Soil research will study unfavorable conditions that limit feed grain and soybean yields, and methods to improve soil structure for greater productivity. Studies will concentrate on basic studies of plant growth, crop protection from pests, and underlying principles affecting yield, particularly soybean yield.

Increased research effort in forage, pasture and range will be devoted to grazing management systems, protection from pests, techniques of water management for conservation, and genetics research to develop plant varieties adapted to less favorable sites with higher yields and greater

quality of forage. Fundamental research will center on genetic and physiological factors, and their modification which will lead to improvements of forage yields and animal performance when fed this forage, to improvement in adaptabilities to drought, poorer soils, cold, and biologic pests, and to respond to more intensive management schemes.

(2) A net increase of \$1,361,000 for contracts and grants for scientific research consisting of:

1890 land-grant institutions and Tuskegee Institute	
(\$13,352,000 available in 1977)	+\$801,000
Specific research grant program to further USDA programs	+560,000
Beef and pork production research	-\$400,000
Forage, pasture and range research	-400,000
Soil erosion in the Pacific Northwest	-350,000
Environmental plant research in Hawaii	-75,000
Dried bean research in North Dakota	-25,000
Pesticide impact assessment program	+1,810,000

(a) An increase of \$801,000 for research at the 1890 land-grant institutions and Tuskegee Institute.

Need for Increase: A six percent increase is proposed to maintain the program at the ongoing level of activity. The cost per unit of research conducted by these institutions continues to increase just as is the case with the inhouse USDA program. The increase results from rising costs of salaries and wages, general supplies, services and equipment.

(b) A decrease of \$1,250,000 in grants to further USDA programs.

This decrease is part of a realignment of research effort to concentrate resources in production research on a broader base. Prior funding for specific research has resulted in directing research attention to certain important areas of research. At this time, sufficient studies in these high priority areas at a large number of state stations permit a withdrawal of this concentrated support.

(c) An increase of \$1,310,000 in grants to further USDA programs for pesticide impact assessment program (excluding an increase of \$447,000 for administration.

Need for increase: The pesticide impact assessment program will be implemented as a coordinated effort by ARS, CSRS, ES, APHIS, ERS, and FS. Under the 1972 amendments to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Environmental Protection Agency (EPA) was assigned authority for regulating uses of pesticides. Under the provisions of FIFRA, EPA has established a process to evaluate risks and benefits of pesticide uses. All existing pesticide registrations are to be reviewed by October 1977 and proceedings for registration or cancellation initiated. A Rebuttable Presumption Against Registration (RPAR) will be issued for a pesticide when there is evidence it may generally cause unreasonable risk to man or the environment. In such cases, the reregistration of the pesticide will not be processed until the presumption of risk is overcome or until it is determined that benefits from the pesticide use exceed the risks.

The USDA will have the opportunity to participate in this process. In order to reach sound conclusions concerning continuation of specific pesticide uses, more information about benefits and risks will be needed. A coordinated Department Program for pesticide impact assessment has been developed. This program provides for assessment of pesticides having important agricultural and forestry uses. Additionally, the Program provides for USDA and the

State research, extension and regulatory systems to engage in detailed assessments of those pesticides having highly important or critical agricultural and forestry uses. This Program will be carried out in cooperation with EPA and provide the information necessary for a rational decision-making process.

Plan of Work: Assessment Teams will be established for each pesticide or group of pesticides. The Teams will report to a Steering Committee composed of Associate or Deputy Administrators of the key agencies.

The Steering Committee, drawing upon the technical expertise of their agencies, through a Technical Advisory Group consisting of agency representatives, will have responsibility for coordinating the use of resources in assessing specific pesticides. A plan of work will be developed by each Assessment Team. The individual agencies collectively work and mutually approve the commitment of resources required to implement the plan of work. This procedure will be used to assure agency programs are within the overall objectives of the Program and to avoid unnecessary duplication of effort. Overall coordination and staff leadership will be provided by the Office of Environmental Quality Activities.

EPA, USDA, and its cooperators in the States will jointly cooperate to identify and obtain data needs. The agricultural network in the States (Extension Service, Cooperative State Research Service, and State Departments of Agriculture) will participate fully in the pesticide impact assessment effort.

For the highest priority pesticides subject to the RPAR process the Program will provide for (1) collecting and analyzing biologic, environmental and economic data from USDA, agricultural experiment stations, Cooperative Extension Services, State Departments of Agriculture, industry and other sources; (2) developing estimates of yields and production of crops and animals, and degree of pest control obtained; (3) obtaining information on current recommended application levels; and (4) developing additional data through field trials, laboratory research and economic surveys.

For the pesticide uses of lower priority subject to RPAR's, the Program will provide for utilizing the agricultural network to furnish available biologic, environmental and economic data to provide a basis for review of the RPAR and responding to the RPAR's with a minimum review of EPA's assessment.

Grants under P. L. 89-106 would be available to fund special research projects needed to support the assessments. The research requirements will be specifically identified by the Assessment Teams and the Technical Advisory Group. The research grants will be made to the institutions most capable of carrying out the needed research on a timely and efficient basis.

A supplemental appropriation of \$1,810,000 is proposed for FY 1977 to finance these costs.

(3) A net increase of \$468,000 for Federal administration (direct appropriation) (\$1,228,000 available in 1977) consisting of:

- (a) An increase of \$3,000 for annualization of pay increases effective in FY 1977.
- (b) An increase of \$7,000 for Working Capital Fund Services.
- (c) An increase of \$11,000 for space rental costs pursuant to P. L. 92-313.
- (d) An increase of \$447,000 for administration of the pesticide impact assessment program.

Need for Increase: In addition to grants to States under P. L. 89-106, the Pesticide Impact Assessment Program provides for a pesticide office to coordinate data collection and State personnel participation on Assessment Teams, and a computerized information system to provide for assembly of data on recommended uses, and alternatives.

Plan of Work:

Pesticide Office. The pesticide office will provide a mechanism for State input and coordination in the Pesticide Impact Assessment Program. It will be staffed by professional and support personnel who will provide for coordination between the State agricultural experiment stations and the USDA Technical Advisory Group and the Assessment Teams. The pesticide office will be responsible for obtaining the services of university scientists and making the necessary administrative arrangements. The office will be responsible for selecting scientists for the Assessment Teams and will be responsible for seeing that data supplied by the universities is properly assembled and transmitted to the Assessment Teams.

Information System. CSRS and ARS will establish a computerized data system to catalog State recommended pesticide uses by site, pest, pesticide, and State. For a particular pest problem, alternative State recommendations will be immediately available for assessment. This listing will differ from the registered label listing of EPA in that many uses included on labels are not recommended.

Regional Coordination. In addition, provision will also be made for travel and time of specific State scientists to participate in the Assessment Teams. The State in this manner could provide a pool of specific expertise on call upon demand, similar to the role a number of Federal scientists will be playing. The pesticide office would serve to identify the network of scientists available for specific assignments.

A supplemental appropriation of \$447,000 is proposed for fiscal year 1977 to finance these costs.

STATUS OF PROGRAM

This appropriation provides the Federal Government's contribution to land-grant agricultural experiment stations, schools of forestry and other eligible institutions in the various States and in Puerto Rico, Guam, the Virgin Islands, and District of Columbia. The appropriation is established pursuant to the provisions of the Hatch Act of 1887, as amended by the Act of August 11, 1955, and further amended by Public Law 92-318 approved June 23, 1972, and further amended by Public Law 93-471 approved October 26, 1974; Cooperative Forestry Research Act of October 10, 1962, as amended by Public Law 92-318 approved June 23, 1972; Research Facilities Act of July 22, 1963; Grants for Scientific Research, Section 2 of Public Law 89-106, approved August 4, 1965; and Rural Development Act of 1972, Title V of Public Law 92-419, approved August 30, 1972, as amended.

The State institutions conduct research and experiments on the problems constantly encountered in the development of a permanent and sustaining agriculture and forestry, and in the improvement of the economic and social welfare of rural and urban families. Because of differences in climate, soil, market outlets, and other local conditions, each State has distinct problems in the production and marketing of crops and livestock. Farmers, foresters and rural people in the individual States naturally look to their State agricultural experiment stations, universities and colleges for solution of the State and local problems and, in recent years, have requested increased services to help meet changing conditions.

Research programs at the State agricultural experiment stations, to be most effective, include participation in regional and national programs. Joint attack by a group of State stations is the most effective and often the only practical approach to problems of common interest. The stations are acting together as regional groups to provide cooperative coordinated attacks on problems of regional and national interest. In a similar manner, the research programs of the State agricultural experiment stations and the Department of Agriculture are supplementary and interdependent.

The Federal-grant funds constitute a powerful force in bringing about inter-State cooperation and Federal-State collaboration in the planning and conduct of this overall program of agricultural research. Therefore, the impact of the Federal grant funds cannot be fully evaluated solely on the basis of the amount of funds provided.

Research at the State institutions is organized into a program of projects that is submitted for review and evaluation by the Service. The program of projects is financed wholly or in part from Federal grant funds. Programs and projects are evaluated periodically with station scientists by administrators and technical staff of the Cooperative State Research Service. The evaluation includes consideration of quality and productivity of the program and projects. The continuing process of research evaluation by station scientists and the staff of the Cooperative State Research Service results in a dynamic program with approximately 15 to 20 percent of the projects being replaced by new and/or revised projects each year.

Distribution of Payments:

Hatch Act: The Agricultural Experiment Stations Act of August 11, 1955 (Hatch Act, as amended) provides that the distribution of Federal payments to States for fiscal year 1955 shall become a fixed base and that any sums appropriated in excess of the 1955 level shall be distributed in the following manner:

- 20% shall be allotted equally to each State.
- not less than 52% shall be allotted to the States as follows:
 - one-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and
 - one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States.

-not more than 25% shall be allotted to the States for cooperative research in which two or more State agricultural experiment stations are cooperating to solve problems that concern the agriculture of more than one State.

-3% shall be available to the Secretary of Agriculture for the Administration of this Act.

The Act also provides that any amount in excess of \$90,000 available for allotment to any State, exclusive of the regional research fund, shall be matched by the State out of its own funds for research, and for the establishment and maintenance of facilities necessary for the prosecution of such research. It also requires marketing research be continued as it existed in fiscal year 1955 and provides that 20% of the funds appropriated for distribution to States in excess of the 1955 appropriations shall be used for conducting marketing research projects approved by the Department of Agriculture.

Cooperative Forestry Research: The Cooperative Forestry Research Act of October 10, 1962, provides that the apportionment among States shall be determined by the Secretary after consultation with a national advisory board of not less than seven officials of the forestry schools of the State-certified eligible colleges and universities chosen by a majority of such schools. In making such apportionments consideration shall be given to pertinent factors including, but not limited to, areas of non-Federal commercial forest land and volume of timber cut annually from growing stock. The Act also limits the payments to the amount made available and budgeted from non-Federal sources by the certified institutions for expenditure for forestry research.

Scientific Research Grants: Section 2 of the Act of August 4, 1965 (7 U.S.C. 450i) authorizes grants to State agricultural experiment stations, colleges, universities, other research institutions and organizations, Federal and private organizations and individuals for research to further the programs of the Department of Agriculture. In fiscal year 1977, \$13,352,000 of the \$17,852,000 appropriated for this program is planned for use by the 1890 Institutions and Tuskegee Institute.

Rural Development Research: The Rural Development Act of 1972, as amended, provides that funds be allocated as follows:

-20% shall be allocated equally to each State.

-66% shall be allocated to each State as follows:

one-half in an amount proportionate to the relative rural population of each State to the total rural population of all States, and

one-half in an amount proportionate to the relative farm population of each State to the total farm population of all States.

-10% shall be allocated to the States for research serving two or more States in which universities in two or more States cooperate or which is conducted by one university to serve two or more States.

-4% shall be available to the Secretary of Agriculture for Federal administration, national coordination, and program assistance to the States.

Penalty Mail: The Hatch Act of 1887, as amended (7 U.S.C. 361f), provides for the mailing under penalty indicia by agricultural experiment stations of bulletins, reports, periodicals, reprints of articles, and other publications, including lists of publications necessary for dissemination of results of research. Mailings include not only those to individual farmers upon request but also to newspapers, libraries, other experiment stations, and organizations interested in results of research and dissemination of such results.

Under title 39 U.S.C. 3206(b) and 3202(a)(4), the Department paid to the U. S. Postal Service \$470,940 to cover postage of mail sent under the penalty privilege by the State agricultural experiment stations during fiscal year 1976. Funds of \$476,000 have been set-aside from the fiscal year 1977 appropriation for payments to States under the Hatch Act for payments to the U. S. Postal Service.

Table 1
Distribution of Federal Payments to States for Research at State Agricultural Experiment
Stations and Other State Institutions - Fiscal Year 1976

State	Intell. Act., as amended			Cooperative			Contracts &			Rural			Total		
	Regular	Regional	Research	TOTAL	Research	(H-S)	Scientific	Research	Development	Other	Development	Other	Federal	Grants	Funds
Alabama	1,634,676	492,876	2,127,552	2,127,552	247,117	1,666,379	1,666,379	247,117	27,948	...	27,948	...	4,068,996	...	...
Alaska	435,658	62,900	498,558	498,558	122,626	...	...	122,626	7,360	...	7,360	...	628,524	...	...
Arizona	506,793	357,065	863,858	863,858	113,050	152,000	152,000	113,050	10,478	...	10,478	...	1,219,386	...	...
Arkansas	1,367,265	312,932	1,680,197	1,680,197	223,176	605,629	605,629	223,176	24,529	...	24,529	...	2,613,531	...	...
California	1,607,054	681,639	2,378,693	2,378,693	251,905	309,300	309,300	251,905	32,862	...	32,862	...	2,972,760	...	...
Colorado	760,579	481,322	1,241,901	1,241,901	132,202	177,600	177,600	132,202	15,092	...	15,092	...	1,566,795	...	...
Connecticut	645,416	239,541	884,957	884,957	79,533	65,600	65,600	79,533	12,920	...	12,920	...	1,043,010	...	...
Delaware	467,062	188,633	655,695	655,695	41,229	302,510	302,510	41,229	7,908	...	7,908	...	1,007,342	...	...
District of Columbia	241,518	500	242,018	242,018	...	...	...	...	...	...	...	...	242,018	...	...
Florida	1,033,134	237,185	1,270,319	1,270,319	196,448	788,226	788,226	196,448	21,925	...	21,925	...	2,274,918	...	...
Georgia	1,756,190	552,002	2,308,192	2,308,192	256,693	887,654	887,654	256,693	32,135	...	32,135	...	3,484,674	...	...
Guam	295,515	28,326	323,841	323,841	...	...	...	...	...	...	...	...	323,841	...	...
Hawaii	472,807	177,608	650,415	650,415	65,169	75,000	75,000	65,169	7,392	...	7,392	...	797,976	...	...
Idaho	700,261	296,744	995,005	995,005	170,507	255,467	255,467	170,507	14,215	...	14,215	...	1,435,194	...	...
Illinois	1,971,674	440,907	2,412,581	2,412,581	161,780	331,020	331,020	161,780	47,489	...	47,489	...	2,932,870	...	...
Indiana	1,775,579	417,728	2,193,307	2,193,307	136,991	72,000	72,000	136,991	43,813	...	43,813	...	2,446,511	...	...
Iowa	1,831,590	604,880	2,436,470	2,436,470	98,686	454,800	454,800	98,686	83,716	...	83,716	...	3,073,672	...	...
Kansas	1,192,157	348,862	1,541,019	1,541,019	60,381	112,000	112,000	60,381	26,419	...	26,419	...	1,739,819	...	...
Kentucky	1,909,476	382,434	2,291,910	2,291,910	156,143	941,725	941,725	156,143	41,640	...	41,640	...	3,431,410	...	...
Louisiana	1,249,611	281,430	1,531,041	1,531,041	232,753	828,436	828,436	232,753	23,537	...	23,537	...	2,617,767	...	...
Maine	653,015	257,602	910,617	910,617	213,600	72,000	72,000	213,600	11,505	...	11,505	...	1,207,802	...	...
Maryland	873,226	306,745	1,179,971	1,179,971	93,898	454,944	454,944	93,898	17,723	...	17,723	...	1,746,536	...	...
Massachusetts	772,035	310,186	1,082,221	1,082,221	108,262	138,800	138,800	108,262	14,871	...	14,871	...	1,344,152	...	...
Michigan	1,052,782	361,291	2,214,073	2,214,073	218,388	306,100	306,100	218,388	42,727	...	42,727	...	2,781,288	...	...
Minnesota	1,741,923	385,726	2,127,649	2,127,649	100,083	141,600	141,600	100,083	43,516	...	43,516	...	2,492,848	...	...
Mississippi	1,718,739	371,059	2,089,798	2,089,798	237,341	977,210	977,210	237,341	66,546	...	66,546	...	3,371,095	...	...
Missouri	1,760,367	378,913	2,139,280	2,139,280	165,719	1,101,177	1,101,177	165,719	39,131	...	39,131	...	3,445,307	...	...
Montana	667,475	329,465	996,940	996,940	160,931	80,000	80,000	160,931	13,518	...	13,518	...	1,251,389	...	...
Nebraska	1,004,791	386,731	1,469,522	1,469,522	55,593	213,720	213,720	55,593	24,703	...	24,703	...	1,763,538	...	...
Nevada	428,666	181,022	609,688	609,688	46,017	78,400	78,400	46,017	7,166	...	7,166	...	761,271	...	...
New Hampshire	520,305	190,053	710,358	710,358	127,614	78,400	78,400	127,614	9,298	...	9,298	...	925,470	...	...
New Jersey	755,391	473,110	1,228,501	1,228,501	74,745	50,000	50,000	74,745	14,898	...	14,898	...	1,368,144	...	...
New Mexico	610,165	198,492	808,657	808,657	84,321	72,000	72,000	84,321	72,000	...	72,000	...	975,780	...	...
New York	1,835,299	690,281	2,525,580	2,525,580	227,964	473,100	473,100	227,964	70,037	...	70,037	...	3,304,681	...	...
North Carolina	2,590,246	518,865	3,117,111	3,117,111	242,329	1,207,068	1,207,068	242,329	52,593	...	52,593	...	4,619,101	...	...
North Dakota	836,289	290,440	1,126,729	1,126,729	31,652	103,200	103,200	31,652	17,737	...	17,737	...	1,277,318	...	...

State	Hatch Act, as amended			Cooperative		Contracts &		Rural Development Act	Other Funds	Total	
	Regular Formula	Regional Research	TOTAL	Forestry Research (H-S)	Grants for Scientific Research	Rural Development Act	Federal Grant Funds				
Ohio	2,186,858	395,159	2,582,017	146,567	168,800	50,843	...	2,948,227			
Oklahoma	1,192,710	264,744	1,457,454	117,838	753,072	23,336	...	2,351,700			
Oregon	871,635	476,742	1,348,377	261,481	252,865	55,455	...	1,918,178			
Pennsylvania	2,253,828	535,800	2,789,628	199,236	196,000	49,096	...	3,233,960			
Puerto Rico	1,845,540	356,225	2,201,765	...	...	34,225	...	2,235,990		
Rhode Island	438,530	201,115	639,645	36,440	...	7,119	...	683,204			
South Carolina	1,418,070	306,103	1,724,173	184,872	767,277	24,517	...	2,700,839			
South Dakota	841,743	295,118	1,136,861	50,805	212,800	18,560	...	1,419,026			
Tennessee	1,916,355	387,543	2,303,898	175,295	876,473	38,662	...	3,394,328			
Texas	2,446,171	521,993	2,968,164	208,812	1,343,749	48,565	...	4,569,290			
Utah	541,488	349,685	891,173	89,110	72,000	9,264	...	1,061,547			
Vermont	551,668	152,437	704,105	103,474	128,000	10,114	...	946,493			
Virginia	1,658,971	350,206	2,009,177	204,024	780,171	32,386	...	3,025,758			
Virgin Islands	250,965	3,000	253,965	13,959	...	...	...	267,924		
Washington	994,906	618,126	1,613,032	266,269	66,668	20,705	...	1,966,674			
West Virginia	1,093,699	243,243	1,336,942	151,355	...	18,765	...	1,507,062			
Wisconsin	1,755,823	469,944	2,225,767	189,660	140,460	43,317	...	2,599,204			
Wyoming	499,155	278,440	777,595	69,957	100,000	8,862	...	957,214			
Other .....	...	...	...	...	31,000	...	...	31,000		
Subtotal	63,489,244	18,419,116	81,908,360	7,462,000	19,546,000	1,440,000	...	110,356,360			
Committee of Nine (Travel) .....	...	12,000	12,000	...	...	...	...	12,000		
Unobligated balance	214,064	19,447	233,511	...	...	...	...	233,511		
Subtotal	63,703,308	18,450,563	82,153,871	7,462,000	19,546,000	1,440,000	...	110,601,871			
Federal Administration:											
Hatch funds (32) .....	...	...	1,892,683	...	...	...	...	1,892,683		
Unobligated balance .....	...	...	411,446	...	...	...	...	411,446		
Rural development funds (42) .....	...	...	...	...	...	30,000	...	30,000		
Unobligated balance .....	...	...	...	...	...	30,000	...	30,000		
Appropriation (Direct) .....	...	...	...	...	...	1,018,000	...	1,018,000		
Subtotal .....	...	...	2,304,129	...	...	60,000	...	3,382,129		
Penalty Hall .....	...	...	470,940	...	...	...	...	470,940		
Unobligated balance .....	...	...	5,060	...	...	...	...	5,060		
Grand Total	63,703,308	18,450,563	82,153,871	7,462,000	19,546,000	1,500,000	...	114,460,000			

Table 2
Available Funds for Cooperative State Research Service
Fiscal Years 1976, 1977, and 1978
(In Dollars)

State	1976 Actual	1977 Estimate	1978 Estimate
1. <u>Payments to Agricultural</u>			
<u>Experiment Stations under the</u>			
<u>Hatch Act, and for penalty mail:</u>			
a. Distributed by formula:			
Alabama	\$1,634,676	\$1,833,911	\$1,957,571
Alaska	435,658	493,912	530,069
Arizona	586,793	666,513	715,994
Arkansas	1,367,265	1,543,139	1,652,300
California	1,697,054	1,929,892	2,074,409
Colorado	760,579	871,881	940,963
Connecticut	645,416	746,373	806,208
Delaware	467,062	529,208	567,781
District of Columbia	241,518	290,161	320,135
Florida	1,033,134	1,194,190	1,292,257
Georgia	1,756,190	1,984,050	2,125,477
Guam	295,515	414,622	447,123
Hawaii	472,807	545,213	581,594
Idaho	700,261	805,603	870,969
Illinois	1,971,674	2,311,199	2,517,884
Indiana	1,775,979	2,083,812	2,274,877
Iowa	1,831,590	2,155,953	2,357,277
Kansas	1,192,157	1,381,009	1,498,219
Kentucky	1,909,476	2,204,508	2,386,358
Louisiana	1,249,611	1,418,657	1,523,580
Maine	653,015	740,304	794,482
Maryland	873,226	1,002,503	1,082,742
Massachusetts	772,035	884,497	952,612
Michigan	1,852,782	2,153,116	2,339,526
Minnesota	1,741,923	2,047,786	2,237,628
Mississippi	1,718,739	1,925,516	2,053,857
Missouri	1,760,367	2,036,188	2,207,384
Montana	667,475	768,020	830,426
Nebraska	1,084,791	1,261,903	1,371,832
Nevada	428,666	485,741	521,166
New Hampshire	520,305	591,949	636,417
New Jersey	755,391	865,327	933,562
New Mexico	610,165	692,210	743,073
New York	1,835,299	2,120,603	2,297,684
North Carolina	2,598,246	2,966,091	3,194,404
North Dakota	834,289	963,720	1,044,055
Ohio	2,186,858	2,542,739	2,763,626
Oklahoma	1,192,710	1,360,429	1,464,528
Oregon	871,635	1,002,520	1,083,757
Pennsylvania	2,253,828	2,597,654	2,811,059
Puerto Rico	1,845,540	2,087,793	2,238,154
Rhode Island	438,530	495,280	530,503
South Carolina	1,418,070	1,593,811	1,702,890
South Dakota	841,743	976,807	1,060,638
Tennessee	1,916,355	2,188,938	2,358,124
Texas	2,446,171	2,786,494	2,997,725
Utah	541,488	612,915	657,248

State	1976 Actual	1977 Estimate	1978 Estimate
Vermont	\$551,668	\$632,345	\$680,284
Virginia	1,658,971	1,888,564	2,031,067
Virgin Islands	250,965	408,438	440,300
Washington	994,906	1,144,593	1,237,500
West Virginia	1,093,699	1,234,657	1,319,311
Wisconsin	1,755,823	2,060,297	2,249,277
Wyoming	499,155	567,834	610,462
Subtotal	63,489,244	73,091,388	78,918,348
a/ b. Regional research funds	18,419,116	21,698,313	23,721,563
Committee of Nine travel ..	12,000	12,000	12,000
Total agricultural research:			
under the Hatch Act	81,920,360	94,801,701	102,651,911
For administration	1,892,683	2,695,299	2,938,089
For penalty mail	470,940	476,000	476,000
Subtotal	84,283,983	97,973,000	106,066,000
b/2. Cooperative forestry			
research	7,462,000	8,212,000	8,212,000
3. Contracts and grants for			
scientific research	19,546,000	c/ 17,852,000	19,213,000
4. Grants for facilities .....	...	...	...
5. Funds for rural development			
research:			
Research program	1,440,000	1,440,000	1,440,000
For administration	30,000	60,000	60,000
Subtotal, rural development.	1,470,000	1,500,000	1,500,000
6. Federal Administration:			
Included in item 1 above	(1,892,683)	(2,695,299)	(2,938,089)
Included in item 5 above	(30,000)	(60,000)	(60,000)
Direct appropriation	1,018,000	c/ 1,228,000	1,696,000
Unobligated balance	680,017	...	...
Subtotal, appropriated funds.	114,460,000	126,765,000	136,687,000
Reimbursements	485,501	1,006,000	904,000
Allotments from:			
Forest Service	1,183,800	1,150,100	1,150,100
Environmental Protection			
Agency	1,067,000	...	...
Agricultural Research			
Service .....	...	...	600,000
Trust Fund	1,520	5,000	5,000
Total available or estimate	117,197,821	128,926,100	139,346,100

- a/ Allotted to States on the basis of recommendations by a committee of experiment station directors and approved by the Cooperative State Research Service.
- b/ Apportioned among the States on a basis determined by the Secretary after consultation with a national advisory board of not less than seven officials of forestry schools selected by eligible institutions. See Table 4 for distribution.
- c/ Excludes proposed supplemental of \$2,257,000 for Pesticide Impact Assessment Program (Contracts and Grants for Scientific Research \$1,810,000 and Federal Administration (direct appropriation) \$447,000).

Table 3
Estimated Distribution by Research Programs of Federal Payments
to State Agricultural Experiment Stations, Schools of Forestry,
and 1890 Land-Grant Institutions and Tuskegee Institute
Fiscal Year 1977 (In thousands of dollars)

	<u>1977</u>
Natural Resources Programs	
Soil and land use	3,916
Water and watersheds <u>1/</u>	1,341
Environmental quality	7,439
Fish and wildlife	599
Outdoor recreation	738
Weather	483
Remote sensing	107
Forestry Resources Programs	
Forestry <u>2/</u>	9,603
Crop Resources Programs	
Protection from disease, insect pests, and weeds <u>3/</u>	13,553
Crop varieties and production systems for dependable and efficient production	19,071
Quality improvement, quality maintenance, and marketing of crops	6,527
Animal Resources Programs	
Meat animal research	12,264
Dairy research	5,400
Poultry research	4,732
Other animal research	1,347
Quality improvement, quality maintenance, and marketing of animal products	5,276
People, Communities, and Institutions Resources Programs	
Food and nutrition	6,672
Food safety	2,254
Rural development	11,778
Insects affecting man	341
Competition, Trade Adjustments and Price, and Income Policy	
Farm adjustments necessary to increase farm income	1,896
Marketing and competition	6,969
Penalty Mail	476
Federal Administration	<u>3,983</u>
GRAND TOTAL	<u>126,765</u>

1/ Includes water pollution research.

2/ McIntire-Stennis Funds are also included under other appropriate resource programs.

3/ Includes activities to reduce or avoid the use of pesticides.

Table 4
Available Funds for McIntire-Stennis Cooperative
Forestry Research for Fiscal Years 1976, 1977, and 1978
(In Dollars)

	1976 <u>Actual</u>	1977 <u>Estimate</u>	1978 <u>Estimate</u>
Alabama	\$247,117	\$273,386	\$273,386
Alaska	122,626	134,957	134,957
Arizona	113,050	103,012	103,012
Arkansas	223,176	252,090	252,090
California	251,905	278,710	278,710
Colorado	132,202	150,930	150,930
Connecticut	79,533	92,363	92,363
Delaware	41,229	49,770	49,770
Florida	194,448	220,145	220,145
Georgia	256,693	284,035	284,035
Guam	...	...	...
Hawaii	65,169	65,742	65,742
Idaho	170,507	182,875	182,875
Illinois	141,780	156,253	156,253
Indiana	136,991	140,281	140,281
Iowa	98,686	97,687	97,687
Kansas	60,381	71,067	71,067
Kentucky	156,143	177,550	177,550
Louisiana	232,753	257,413	257,413
Maine	213,600	230,793	230,793
Maryland	93,898	113,660	113,660
Massachusetts	108,262	118,985	118,985
Michigan	218,388	241,441	241,441
Minnesota	180,083	198,848	198,848
Mississippi	237,541	268,062	268,062
Missouri	165,719	193,523	193,523
Montana	160,931	166,902	166,902
Nebraska	55,593	60,418	60,418
Nevada	46,017	33,797	33,797
New Hampshire	127,414	145,605	145,605
New Jersey	74,745	87,039	87,039
New Mexico	84,321	108,336	108,336
New York	227,964	246,765	246,765
North Carolina	242,329	262,738	262,738
North Dakota	31,652	39,121	39,121
Ohio	146,567	161,578	161,578
Oklahoma	117,838	129,633	129,633
Oregon	261,481	289,359	289,359
Pennsylvania	199,236	204,172	204,172
Puerto Rico	...	...	...
Rhode Island	36,440	44,445	44,445
South Carolina	184,872	214,820	214,820
South Dakota	50,805	55,093	55,093
Tennessee	175,295	188,198	188,198
Texas	208,812	225,468	225,468
Utah	89,110	81,715	81,715
Vermont	103,474	124,308	124,308
Virginia	204,024	236,117	236,117
Virgin Islands	13,959	...	...
Washington	266,269	294,683	294,683
West Virginia	151,355	172,226	172,226
Wisconsin	189,660	209,496	209,496
Wyoming	69,957	76,390	76,390
TOTAL	7,462,000	8,212,000	8,212,000

Table 5
Special Grant Funds Appropriated to the 1890 Land-Grant Institutions
and Tuskegee Institute, Fiscal Years 1976, 1977, and 1978
(In Dollars)

	<u>1976</u> <u>Actual</u>	<u>1977</u> <u>Estimate</u>	<u>Increase</u> <u>1978</u>	<u>1978</u> <u>Estimate</u>
ALABAMA:				
Alabama A&M Univ.	\$804,384	\$845,728	\$51,264	\$896,992
Tuskegee Institute	786,995	827,318	49,998	877,316
ARKANSAS:				
Univ. of Arkansas at Pine Bluff	685,629	720,003	42,621	762,624
DELAWARE:				
Delaware State College	302,510	314,397	14,738	329,135
FLORIDA:				
Florida A&M Univ.	514,926	539,280	30,198	569,478
GEORGIA:				
Fort Valley State College	841,254	884,762	53,948	938,710
KENTUCKY:				
Kentucky State College	861,725	906,435	55,437	961,872
LOUISIANA:				
Southern Univ. & A&M College	624,436	655,218	38,168	693,386
MARYLAND:				
Univ. of Maryland Eastern Shore	454,944	475,777	25,832	501,609
MISSISSIPPI:				
Alcorn A&M College	834,210	877,305	53,435	930,740
MISSOURI:				
Lincoln University	791,177	831,746	50,303	882,049
NORTH CAROLINA:				
North Carolina A&T State University	1,142,268	1,203,444	75,855	1,279,299
OKLAHOMA:				
Langston University	599,672	629,001	36,365	665,366
SOUTH CAROLINA:				
South Carolina State College	699,277	734,451	43,615	778,066
TENNESSEE:				
Tennessee A&I State Univ.	876,473	922,048	56,511	978,559
TEXAS:				
Prairie View A&M College	1,105,949	1,164,993	73,211	1,238,204
VIRGINIA:				
Virginia State College	780,171	820,094	49,501	869,595
 TOTAL	 12,706,000	 13,352,000	 801,000	 14,153,000

Table 6
Payments to States for Research
Components of Title V, Rural Development Act of 1972

Fiscal Years 1976, 1977, and 1978
(In Dollars)

State	1976 Actual	1977 Estimate	1978 Estimate
Alabama	\$27,948	\$27,948	\$27,948
Alaska	7,340	7,340	7,340
Arizona	10,478	10,478	10,478
Arkansas	24,529	24,529	24,529
California	32,862	32,862	32,862
Colorado	15,092	15,092	15,092
Connecticut	12,920	12,920	12,920
Delaware	7,908	7,908	7,908
Florida	21,925	21,925	21,925
Georgia	32,135	32,135	32,135
Hawaii	7,392	7,392	7,392
Idaho	14,215	14,215	14,215
Illinois	47,489	47,489	47,489
Indiana	43,813	43,813	43,813
Iowa	83,716	46,216	46,216
Kansas	26,419	26,419	26,419
Kentucky	41,640	41,640	41,640
Louisiana	23,537	23,537	23,537
Maine	11,585	11,585	11,585
Maryland	17,723	17,723	17,723
Massachusetts	14,871	14,871	14,871
Michigan	42,727	42,727	42,727
Minnesota	43,516	43,516	43,516
Mississippi	66,546	29,046	29,046
Missouri	39,131	39,131	39,131
Montana	13,518	13,518	13,518
Nebraska	24,703	24,703	24,703
Nevada	7,166	7,166	7,166
New Hampshire	9,298	9,298	9,298
New Jersey	14,898	14,898	14,898
New Mexico	10,802	10,802	10,802
New York	78,037	40,537	40,537
North Carolina	52,593	52,593	52,593
North Dakota	17,737	17,737	17,737
Ohio	50,843	50,843	50,843
Oklahoma	23,336	23,336	23,336
Oregon	55,455	17,955	17,955
Pennsylvania	49,096	49,096	49,096
Puerto Rico	34,225	34,225	34,225
Rhode Island	7,119	7,119	7,119
South Carolina	24,517	24,517	24,517
South Dakota	18,560	18,560	18,560
Tennessee	38,662	38,662	38,662
Texas	48,565	48,565	48,565
Utah	9,264	9,264	9,264
Vermont	10,114	10,114	10,114
Virginia	32,386	32,386	32,386

State	1976 Actual	1977 Estimate	1978 Estimate
Washington	\$20,705	\$20,705	\$20,705
West Virginia	18,765	18,765	18,765
Wisconsin	43,317	43,317	43,317
Wyoming	8,862	8,862	8,862
4 percent - Federal Administration	30,000	60,000	60,000
10 percent to finance work in 2 or more States	<u>a/</u>	150,000	150,000
TOTAL	1,470,000	1,500,000	1,500,000

a/ Regional research reflected in Iowa, Mississippi, New York and Oregon.

Selected Examples of Recent Progress: Recent accomplishments for the programs of research are cited below:

HATCH ACT

Animal and Plant Production

Evaporative Cooling of Dairy Cattle

Cooling dairy cattle and calves in hot, dry areas like Arizona pays off in more milk, greater conception rates, and more vigorous calves. Arizona researchers have used evaporative cooling systems to blow cool air on the heads of the cattle in the mangers. Milk production rose 20 percent, and conception rate rose 50 percent. Also, there were fewer calf losses. These findings benefit both the consumer and the dairy farmer.

Improved Cattle Fertility

Ability to control the ovulation time in cattle and achieve a high fertility rate have been two of the benefits from Michigan research. This work has involved the use of the hormone prostaglandin F-2 alpha. Scientists have found that after they have administered the hormone, they can predict the time of ovulation almost to the hour. Additional research is needed to clear the hormone for this use. But the procedure could overcome one of the most important blocks to the wider use of artificial insemination--the inability to pinpoint ovulation and thus to inseminate at the correct time to get fertilization. Beef producers will gain most directly from this research. They will be able to use artificial insemination more widely, with greater success. Also, with conception more certain, programs to genetically improve cattle will be speeded.

Improved Immunological Method

A method for removing all traces of red blood cells from anaplasmosis vaccine has been developed by Louisiana scientists. The vaccine itself has been vital to the cattle industry over the past 10 years, when it helped control the \$100 million annual loss to that disease. Unfortunately, the vaccine contains red blood cells. Their presence means that vaccinated cows often lose their newborn calves to a disorder similar to the RH factor condition in humans. These losses can run as high as 30 percent. Previous attempts to purify the vaccine failed. If large-scale production techniques can be worked out, this new procedure will remove one of the major limits to controlling anaplasmosis. The same technique also may have application in improving human vaccines such as the one for malaria in which red blood cells or other harmful components can be selectively removed.

Preventive Management Controls Transmissible Gastroenteritis of Swine

Two steps toward effective prevention of transmissible gastroenteritis (TGE) have come from regional research by scientists from the Indiana, Ohio, Illinois, and Missouri Stations. TGE is a highly important economic problem of swine production. Studies have turned up two means of avoiding the disease: (1) by keeping starlings out of the swine areas, and (2) by not introducing into the swine herd animals whose blood test positive for TGE (indicating they have had exposure to the virus earlier). In addition to the benefits to swine producers, this research has helped scientists better understand viruses and the swine immune system.

Leptospirosis of Cattle and Swine Controlled with Vaccine

A single vaccine that protects both cattle and swine against three of the most commonly occurring kinds of leptospiral bacteria has just been developed at the Illinois Station. Leptospirosis affects many animals as well as man. It causes an estimated \$180 million loss annually in livestock production. In dairy cattle, the losses are through abortions and lower milk production. Unfortunately, there are several kinds of leptospiral bacteria. And until now, only one of these could be prevented by commercially available vaccine. The immunity from this new vaccine persists for 6-8 months. This helps make the vaccine program highly practical for the commercial livestock producer.

Control for Anemia-dermatitis of Poultry

The testing of an idea that one disease may occur only because the animal's normal resistance has been lowered by another co-existing disease has paid off for the poultry industry via research at the Delaware Station. Anemia-dermatitis has been a nation-wide problem with poultry for over 25 years. Broiler flocks can have heavy death losses and reduced performance if the disease hits. No previous control measures have been effective. The Delaware scientists suspected a co-existing disease—the infectious bursal agent—might be the one making anemia-dermatitis outbreaks so costly. They found that by protecting birds against the infectious bursal agents, they could cut anemia-dermatitis losses to insignificant levels. In Delaware alone, the annual saving is estimated at over \$3,200,000. This discovery has set scientists to looking at other poultry diseases to see if their impact results from a similar interaction with the infectious bursal agent. If so, this initial discovery will lead to even greater savings to the poultry industry, and thus to the consumer.

Drip Irrigation

Drip irrigation has spread widely since the California Station's scientists began experimenting with it six years ago—for good reason. It uses as much as 50 percent less water, and poorer quality saline water may be used. This method also makes it possible to use land that could not be satisfactorily irrigated by conventional methods—hillsides, for example. It often is well-suited to various kinds of problem soils, and avoids environmental problems such as leaching nutrients and drainage water pollution. The system, also known as trickle irrigation, has spread to 60,000 acres in California and about 135,000 acres nationally. The system is expected to spread to at least a half-million acres nationally by 1980—with substantial economic and environmental impact.

Sugarcane Now Drip Irrigated

It appears from Hawaii Station research that use of drip irrigation in sugarcane could pay off very well. Scientists there have developed drip irrigation systems that can be routinely used by the sugar industry. Adoption of these systems should save 20 percent on previous water use. That means a saving of \$40 per acre. The new systems also should produce 7 to 15 percent higher yields. This additional sugar is worth \$190 a ton. Total annual savings could run \$12 million on 100,000 acres of sugarcane.

No Tillage for Row Crops

Corn grown without tillage yields 16 percent more than conventional clean tillage corn. The no-till corn was planted in a killed vegetative mulch cover crop. These long-term research results from the Virginia Station scientists have a number of important implications besides the increase in yield. Water is saved because there is less runoff and less direct evaporation, since the water stays

right near the plant roots in small quantities. This means more of the water is available to the crop for its growth. Serious soil erosion also is eliminated—since the killed vegetative mulch plants anchor the soil in place. All of this makes it possible to grow row crops on steeper slopes than before. Also, there is a reduction in pollution of public waterways, because plant nutrients, chemicals, crop residues, animal wastes, and soil sediment are not washed away by runoff. In addition, costs to the farmer are reduced because there are fewer field operations required, less labor, and fewer machines.

Breakthrough in Foliar Nutrition of Soybeans

A "booster" application of fertilizer to the leaves of soybeans has been found by Iowa Station scientists to boost yields 23-26 bushels per acre. The crop is first fertilized normally by soil application. The supplemental fertilizer is then applied via a new and precise method to the plant leaves. This boost is given to the plant so that it has full photosynthetic efficiency during the grain-filling period. This procedure will be profitable for the farmer if he only gets an 8-bushel boost per acre assuming current fertilizer costs and a \$4 per bushel market price for soybeans. Subsequent research has shown that good moisture conditions are required to achieve profitable yield increases.

Superior Tomato Varieties

Until the Dorchester tomato variety was perfected by Maryland Station scientists, most commercial tomatoes in that State did not have crack-resistance bred into them. The new variety with this resistance, plus the natural resistance of an elongated paste tomato, demonstrated its worth recently when rains virtually ruined all other varieties. During the last three weeks of the season, processing plants in the State were almost totally dependent on the Dorchester. The value to Maryland farmers alone was \$725,000. The value added in processing yielded a wholesale value of \$2 million.

Traveler '76, a new tomato developed at the Arkansas Station, is important because it is marketed at a time when supplies of tomatoes from elsewhere are very limited. It has outstanding resistance to cracking, and yields well. It is an early variety adapted to Arkansas conditions. Thus, both consumers and growers benefit from this research.

A New Chili Variety

An improved chili variety "NuMex Big Jim" developed at the New Mexico Station is proving to be a great help to this small but important crop. Yields of the new chili are up 15-20 percent per acre. The chili provides a higher extractable red color and is more adaptable to machine harvest than current commercial varieties. The new variety should add \$2 million to the value of the chili crop in this State.

Once Over Pasture Renovator Developed

Cutting the number of trips required for reseeding and fertilization of pasture lands from four to one is the outcome of recent Kentucky Station research. They developed a pasture renovator machine to do this job. It saves considerable fuel, time, and fertilizer—and makes the farmer much less dependent on weather conditions to get these operations done. The machine is now in commercial production and sells from \$4,300 to \$6,500. A half-million acres of Kentucky pastureland are renovated annually. Use of the renovator on this acreage could save farmers \$5 million a year. Also renovating pastures with red clover will result in additional forage worth \$75 per acre as animal feed.

Pest Control and Environmental Quality

Chestnut Blight Control

A strain of non-virulent pathogens from Italy under study by Connecticut Station scientists looks promising for control of the chestnut blight that has been wiping out the native chestnut varieties used for timber and for wild animal food in that State. Spreading cultures of this strain through the air to trees seems feasible. This would give surviving chestnuts resistance to the chestnut blight that attacks chestnut trees all along the Eastern Seaboard.

Two New Crop Viruses Studied

Scientists from Stations in Illinois, Kentucky, Louisiana, Ohio, Tennessee, and Texas are currently tracking two new major crop viruses that are extremely destructive. At the same time, they have been working out ways of controlling these viruses, should control be necessary. This is all a part of a continuing monitoring program these scientists are cooperating in on such major crops as corn, grain sorghum, sweet sorghum, small grains, sugarcane, and sweet corn. This program helps them predict problems and so direct their research to solve a disease problem as it develops instead of waiting until after it is a real problem. While difficult to state exactly, the monetary benefits of this program for both farmers and consumers would be sizable through preventing crop loss.

Beetles Control Thistle

A beetle from Italy is being used by the Virginia Station researchers as an effective, non-polluting control for the musk thistle—a major problem in pastures of western Virginia. Pasture productivity has gone up as a result; and farmers no longer need to use a herbicide for this purpose. Additional research is centered on mass rearing the beetles more effectively.

Exotic Germplasm Results

"Exotic" plant germplasm collected and preserved by researchers at the Georgia, Illinois, Iowa, Kansas, Mississippi, Oklahoma, New York, and Texas Stations is now being used to give important commercial crop varieties greater disease and insect resistance, higher yields, and greater nutritional quality. Crops worked with so far include soybeans, corn, potatoes, sorghums, and cotton. Yield increases of over 3 percent have been evident in test plot work. Although this yield increase may not be spectacular, it is important because these yields are more dependable than with current varieties because of improved disease and insect resistance.

New Treatment Saves Wheat

A wheat disease that potentially could cost Washington State growers \$8 million is now near control because of research at the Montana, Oregon, and Washington Stations. Until now, growers could do nothing to avoid heavy losses if *Cercospora* root rot hit their fields. Usually, the result was total loss of the crop. This research has developed an effective and efficient control. The treatment also makes possible planting times that favor erosion protection—another big plus for the discovery.

Host Plant Resistance to Cotton Bollworm

Breeding cotton varieties that are better able to protect themselves from bollworm attacks is the focus of some research at the Mississippi Station. Scientists have been breeding into these varieties characteristics that interfere with moth preference and larval survival. This will greatly reduce the amount of insecticides required to grow cotton profitably in the humid South. An unsolved problem in this area of work right now is just what the tradeoffs are. It is possible that producing a plant that resists one insect may mean giving it characteristics that make it susceptible to another. This problem is now under study.

Variable Nature of Chemical Composition of Sewage Sludge

Not all municipal sewage sludge is the same. This is an important finding coming out of Indiana Station research at Purdue, where scientists are concerned with developing recommendations for rates of sewage sludge applications on soils used for crop production. Amounts of inorganic nitrogen, organic phosphorus, potassium, and all metals were quite variable over time from any given city--they studied eight cities for two years. Largest variations were in the amounts of cadmium, zinc, copper, nickel, and lead. As a result of this research, the scientists feel some sampling and analysis program is essential before they can come up with the desired recommendations for cropland application of sewage sludge.

Marketing and Utilization

Hawaii Guava Nectar Marketing

It is feasible to develop and supply a mainland market for guava nectar from Hawaii, according to marketing research done by scientists at that State's Agricultural Experiment Station. The study showed that with an advertising budget of 50 cents per case (24 six-ounce cans), enough guava nectar would be sold to justify shelf space in supermarkets. The research methodology used in this study is also very effective in testing and investigating the market potential for other Hawaiian agricultural products on the mainland.

Centralized Beef Cutting

Centralized cutting of beef could save consumers \$271 million a year, according to Oregon Station research. The relatively new centralized fabrication system of processing beef does not usually save money for stores averaging over \$10,000 a week in retail sales. But for stores averaging under that, the traditional carcass method is less efficient than the fabricated system. This would allow them to charge less for meat than they now do, given that other costs stay constant.

Reducing Labor Costs in Handling Milk in Supermarkets

Twenty-five supermarket dairy departments have reduced labor costs 40-50 percent by adopting the tote system of handling milk as developed by marketing research at the Indiana Station. The new system replaces that where clerks remove the milk cartons from their shipping container and stack them in ones or twos on the display shelf. Now, the milk is stacked for the consumer in its shipping containers. These are like the traditional ones, except that one side is open. The totes are stacked four or five high. Consumers easily remove the cartons through this open side. So all the in-store handling by clerks is eliminated.

The new system also eliminates broken or leaky cartons. So the whole display is cleaner and easier to take care of. This research complements earlier research which showed vertical display of dairy products increased sales 15 percent.

Low-Lactose Milk

Low-lactose milk developed through research at the Rhode Island Station has prevented the symptoms many persons show who cannot tolerate the lactose in milk. This was found through clinical evaluation of the product in a Providence hospital. They found the low-lactose milk also had a sweeter taste than unmodified milk. It is readily dried to a stable high-quality powder that could be used in other food products--or as an export to areas of the world where milk intolerance is a problem. Even though further research to improve the enzyme process is under way, low-lactose milk products seem to have substantial public demand and are now awaiting commercial development. These products are a way to make the calcium, vitamin D, riboflavin, and protein in milk available without the flatulence, severe abdominal pain, and diarrhea suffered by many people who cannot tolerate normal lactose levels in the milk.

Peanut Maturity Index

How to tell when the peanut crop--which grows under the ground--is mature--that is the problem solved by Georgia Station scientists. Food scientists there have developed a field test to measure the amino acid, arginine, in maturing peanuts. This provides an objective measure of the peanut crop maturity. It is a very reliable means of estimating the digging date to get the best yield, quality and economic returns. In a two-county test last year, growers received \$500,000 in increased returns through use of the test. Growers, buying stations, and processing plants are rapidly adopting the test. State-wide use of the test in Georgia is expected to increase income to peanut farmers by some \$20 million yearly.

Preparation of Sovmilk

Production of an acceptable soybean milk is possible now because of Illinois research. Soybean milk would be a very economical protein source for infants, children, and adults. It also can be used by persons who cannot tolerate the lactose in cow's milk. The obstacle that was holding back the production of soybean milk was the fact that it had an undesirable beany or painty off-flavor and odor. The Illinois scientists have succeeded in eliminating this obstacle so that a highly acceptable, stable beverage of water, whole soybeans (including hulls), sugar, and flavor could be developed. They hydrate the bean and inactivate the enzyme (lipoxygenase) responsible for the painty flavor. Then they blanch the beans to inactivate trypsin inhibitors. Via this process, they are able to incorporate in the milk 99 percent of the protein and 90 percent of the total solids from the original bean.

Potato Storage Technology

Shrinkage and spoilage losses of potatoes in storage have been cut to about 5 percent by new storage technology developed at the Idaho Station. The new system consists of control of temperature and humidity levels, and air distribution systems. Before this, storage losses were approximately 25 percent during the 6- to 7-month storage period. The new storage system increases potato quality and extends the marketing and processing period. The yearly direct benefits of this new technology to Idaho are estimated at \$89.9 million--and for the United States, \$307 million.

Test for Safety of Pasteurized Dairy Products

The Rutgers phosphatase test to check the safety of pasteurized milk and milk products was developed at that University's New Jersey Station. The test assures that no contamination has taken place in the processing plant. It is an in-line test now used on cream and half-and-half. It will be effective on ice cream and other pasteurized dairy products as well. It will save energy by eliminating unnecessary repasteurization of suspected product that had to be done before the test was available. The test has been accepted by the Association of Official Analytical Chemists.

Fabric Makes a Difference

As certain detergents have been banned by some States because of their ecological effects, Rhode Island Station scientists have begun to unravel exactly what accounts for the relative effectiveness of different laundry detergents. The differences in fabrics can account for much of the results, they find. After 20 launderings with a variety of detergents and additives, for example, 100 percent cotton broadcloth with easy-care finish had increased in breaking strength and in reflectance (whiteness), and decreased in yellowness, except after exposure to light. On the other hand, polyester-cotton combination fabrics, with permanent press finish, got yellower. One of these fabrics also decreased in both breaking strength and reflectance. Hard water and natural soils, together with the fabric differences, are likely to compound the problems.

Housing and Rural Development

Consumer Buying Practices of Rural Families

Maine educators have a better idea of what should be included in consumer education because of research done by Station scientists there. In a study of buying practices of rural Maine families, the researchers found a need for more effective use of consumer credit, and for programs on budgeting and planning for major home purchases. In looking at low-income families vs. nonlow-income, the latter planned ahead more for purchase of a major appliance, consulted more sources of information, and shopped around more before making a purchase. Only 22 percent from either group knew how much interest they were paying for credit on major home equipment purchases. The two groups were about the same in taking advantage of sales, and in reading a warranty or guarantee before purchase.

Potentials and Effects of Water-Based Economic Development

A way of projecting probable impact of future growth on rural communities dependent on irrigation for agriculture in their area has been worked out by Oregon Station researchers. The information was badly needed by one three-county area in the State, where communities are struggling not only to survive but also to cope with growth. Projection techniques were used to estimate farmers' ability to pay for water, and the effects of irrigated agriculture on the economy. This is an area where with the massive development of irrigated agricultural production, populations have doubled in the past decade, income has tripled, and unemployment all but disappeared. But water supplies are limited. In the heart of the area, wells have dried up. The only alternative is pumping from the Columbia River if productive fields of potatoes and wheat are not to revert to desert sands. Because of the information developed by the researchers, a private group of agricultural, municipal, and industrial interests has been

able to organize and design, and is about to finance a major new irrigation system to sustain present production and to provide for expanding future farm production and off-farm economic growth.

MCINTIRE-STENNIS ACT

Reducing Energy Use in Veneer Drying

Research at the Forest Research Laboratory of Oregon State University to help lower the energy required to dry veneer is also paying off in environmental advantages. Veneer dryers annually use 1.6 million barrels of oil (or its equivalent) in the United States. At \$13 a barrel, this amounts to about \$20 million a year. Studies showed that better stack damper control, and more satisfactory sealing of dryer openings was the most fruitful approach to cutting oil consumption and costs. These steps reduce the volume of vent air to be heated. In addition, the lower dryer air intake reduces the "blue-haze" gases emitted from dryer stacks and lowers the cost of emission control equipment. By making the process more efficient it may be possible to save up to \$2 million a year.

Early Thinning Is Profitable

A system for thinning and use of forests to produce construction material at a portable sawmill has been worked out by scientists at the Idaho Forest and Range Experiment Station. The wood products obtained from thinnings had a value of \$137 per acre. The savings for Idaho forest land owners through use of this system on a half-million acres could be as much as \$50 million by the end of stand rotation.

Improvements in Wood Drying Process

By conducting research on how to find the best level to dry lumber at the least cost, North Carolina State University School of Forest Resources scientists have been helping cut costs and save energy in that industry. Lumber drying in kilns requires lots of energy from gas or oil. The process has been mostly a result of trial and error up to now. The North Carolina system focuses on forced air drying, using no extra heat. Two computer programs have been developed to simulate the drying process. From these programs, scientists can now predict how long it will take to dry lumber under any set of conditions and can reduce the time and cost of drying. The study is now shifting to developing the same kind of simulation data for heated kilns.

Forest Watershed Management

Forest watershed managers are now able to more accurately predict stream flow changes and water yields from given management practices because of research at the University of Georgia School of Forestry. The study covered erosion and sediment export prediction, mineral export from clearcut areas, and clearcutting influences. Tree cutting, skidding, and roller-chopping resulted in no appreciable sediment or solute delivery. Road construction causes serious stream channel degradation and sediment export. Stream meanders are the source of much of the nitrogen in Piedmont streams. Information from this research--a new application of hydrological research to forest management--is being used for management in the Oconee National Forest.

Forage Production of Forest Land

Improved forest range carrying capacity can be a reality because of research at the University of Florida School of Forest Resources and Conservation. Although 69 million acres of forest land in the South are grazed by cattle, very little previous attention has been given to managing these areas for forage production. With projected needs for more beef, studies in this area are important. Chopping and range fertilization in the Florida flatwoods have produced tremendous increases in creeping bluestem grass after two years. Recovery after cattle removal was slow the first two years. Chopping followed by rest from grazing, proved beneficial for maintaining high range productivity.

SPECIFIC RESEARCH GRANTS (Public Law 89-106)

Rapid Screening Technique for Peanut Genetics

A way of rapidly screening for promising lines of peanuts with a minimum expenditure of time and money has been worked out by biochemists at Florida A&M University. This new method--analyzing the pattern of seed proteins shown by a peanut variety--serves as "fingerprinting" for plant breeders to use to verify the parentage and to group related peanut varieties. The method is called the polyacrylamide gel electrophoresis (PAGE) technique. It is likely that this valuable plant breeding tool will find application to other crops, and also aid in the search for more nutritious and higher quality protein plant varieties.

Factors Affecting the Success of Small Farm Operators

Researchers at Southern University (LA) have been studying successful small farm operators to see what they can discover about their success that will be useful in improving the status of small farmers generally. One finding is that these farmers look toward and plan for the future. Their attitudes toward expansion and continuation in farming are positive. They are relatively independent and rely on off-farm employment rather than on welfare for additional income--usually employment in semi-skilled or sub-professional areas. They do very little borrowing to finance farm enterprises. Most of them would like to see their sons become farmers.

Manpower Training Benefits Tennesseans

Manpower training in rural Tennessee benefits the recipients--but possibly in ways not directly related to getting a job for which the person is trained. Tennessee State University researchers found that 48 percent of the trainee graduates were in semi-skilled jobs, but slightly over one-half were in jobs unrelated to their training. The skill training and the basic education components were found to be helpful in aiding rural disadvantaged persons to successfully pursue their vocational, social, and family activities. The knowledge and skills were often used on the job, and in community, family, and leisure-time activities. Subjects seemed satisfied with their working conditions, wages, benefits, and the general nature of their jobs. Employers generally rated trained employees as satisfactory.

Contamination in Rural Water Supplies

Action to improve rural water supplies came about after South Carolina State College scientists had evaluated the drinking water of some rural communities. Forty-six percent of the 147 samples showed unsafe levels of bacterial contamination, and another 16 percent were only marginally safe. Lead exceeded safe limits in 51 percent of the samples. Fifty-four percent exceeded the established turbidity and color limits. All tests were run against the standards and limits set by the U. S. Public Health Service.

Beef Production Increased by Feeding Animal Waste

Recycling animal waste as feed requires some new technology such as that developed by researchers at Auburn University (AL). They have successfully ensiled cattle, swine, and poultry waste, blended it with other feed ingredients, and fed it to beef cattle. The result has been about 25 percent improved efficiency. The ensiling eliminates parasitic nematodes and other potentially harmful pathogens. Also, the ensilage does not have an offensive odor. This research is important particularly in light of projected pressure to meet human needs. Full use of the process could generate \$100 million annually through increased production efficiency.

Water Movement in Sloping Strip-Mine Spoils

The beginnings of techniques and models to determine drainage requirements of mined sites are being made through research at the Iowa Agricultural Experiment Station. A team of soil physicists and agricultural engineers has developed equations and models to predict two-dimensional water movement under saturation conditions in layered backfilled mine soils. The infiltration equations still need to be modified to handle problems of intermittent rainfall and of changes in surface soil conditions. The work is going on both in the laboratory and in the field at this stage, to get the needed information to refine the equations and models.

Measurement of Nitrogen Uptake by Soybeans

Chemical fertilizer--specifically nitrate nitrogen--can inhibit growth of the nodules that on some plants produce a significant amount of the nitrogen used by the plant. Scientists at the Illinois Agricultural Experiment Station have been working on ways to prevent this loss of nitrogen-producing capacity by the plant. They have found that when urea is the only nitrogen source, nodulation is not inhibited--provided that conversion of the urea to nitrate does not occur. About 60 percent of the nitrogen the plant uses comes from the reduction of nitrate absorbed from the soil. The rest may be produced by these nodules and delivered internally to the plant. The biochemical assay methods developed by this research are now available to plant breeders to assist them in identifying soybean cultivars with maximum nitrogen uptake potential.

EXTENSION SERVICE

Purpose Statement

Cooperative agricultural extension work was established by the Smith-Lever Act of May 8, 1914, as amended. The legislation authorizes the Department of Agriculture to give, through the Land-Grant Colleges, instruction and practical demonstrations in agriculture and home economics and related subjects and to encourage the application of such information by means of demonstrations, publications, and otherwise to persons not attending or resident in the colleges.

The basic job of the Cooperative Extension Service is to help people identify and solve their farm, home, and community problems through use of research findings of the Department of Agriculture and the State Land-Grant Colleges, and programs administered by the Department of Agriculture. This work is carried out through State and county extension offices in each State, Puerto Rico, Guam, the Virgin Islands and the District of Columbia.

State and county extension work is financed from Federal, State, County, and local sources. These funds are used within the States for the employment of county agents, home economics agents, 4-H Club agents, State and area specialists, and others who conduct the joint educational programs adapted to local problems and conditions. There are approximately 17,000 State and County extension personnel employed throughout the States.

The Extension Service, USDA, as a partner in the cooperative effort, employs a national staff to coordinate the program by:

- Serving as liaison between the Department of Agriculture and the State extension services, providing program leadership and assistance to the States in the conduct of Extension work.
- Administering Federal laws authorizing Extension work and coordinating the work among the States.
- Providing leadership for the educational phases of all programs under the jurisdiction of the Department.
- As of October 31, 1976, the Service had 200 employees, of which 184 were permanent full-time.

Available Funds and Man-Years

1976 and Estimated, 1977 and 1978

Item	Actual		Estimated		Budget Estimate	
	1976		Available 1977		1978	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Extension Service.....	\$228,935,000	205	\$240,495,000 ^{1/}	206	\$242,471,000	206
Obligations under other						
USDA Appropriations:						
Soil Conservation Service:						
for Resource, Conserva-						
tion and Development...	229,320	--	240,000	--	--	--
Total, other USDA						
Appropriations.....	229,320	--	240,000	--	--	--
Total, Agriculture						
Appropriations.....	\$229,164,320	205	\$240,735,000	206	\$242,471,000	206
Other Federal Funds.....	3,440,109	4	3,177,000	3	177,000	3
Non-Federal Funds.....	1,152,868	--	1,053,000	--	1,053,000	--
Total, Extension Service..	\$233,757,297	209	\$244,965,000	209	\$243,701,000	209

End-of-Year Employment:

	1976 Actual	1977 Estimated	1978 Estimated
Permanent full-time.....	185	187	187
Other.....	19	12	12
Total.....	204	199	199

^{1/} Excludes proposed supplemental of \$911,000 for Pesticide Impact Assessment Program.

EXTENSION SERVICE

Appropriation Act, 1977.....	\$240,208,000
Budget Estimate, 1978.....	242,471,000
Increase in Appropriation.....	\$ +2,263,000

Adjustments in 1977:

Appropriation Act, 1977.....	\$240,208,000
1977 Supplemental Appropriation for:	
Civilian Pay Increases.....	+ 287,000
Adjusted base for 1977.....	240,495,000
Budget Estimate, 1978.....	242,471,000
Increase over adjusted 1977.....	+1,976,000

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increase or Decrease</u>	<u>1978 Estimate</u>
Payments for Cooperative Agricultural Extension Work:			
For 1890 Colleges & Tuskegee.....	\$ 8,400,000	\$ + 433,000	\$ 8,833,000
For Pest Management.....	2,935,000	+1,500,000	4,435,000
For Pesticide Impact Assessment.....	--	+ 911,000	911,000
For Rural Development.....	1,000,000	-1,000,000	- -
For Retirement and Employees ¹			
Compensation Fund Costs.....	15,977,000	+ 56,000	16,033,000
GSA Space Rental Costs.....	299,200	+ 29,000	328,200
Annualization of the Pay Cost			
Increase Effective in FY 1977.....	287,000	+ 6,000	293,000
Working Capital Fund Services.....	(491,000)	+ 41,000	41,000
All Other.....	211,596,800	- -	211,596,800
Total available.....	\$240,495,000	1/\$+1,976,000	\$242,471,000

1/ Excludes proposed supplemental request of \$911,000 for Pesticide Impact Assessment Program consisting of payments to States of \$735,000 under Section 3(d) of the Smith-Lever Act and \$176,000 for Federal Administration and Coordination.

PROJECT STATEMENT
(On basis of adjusted appropriation)

<u>Project</u>	<u>1976</u>	<u>1977 (Estimated)</u>	<u>Increase or Decrease</u>	<u>1978 (Estimated)</u>
1. Payments to States, Puerto Rico, Guam, and the Virgin Islands:				
(a) Cooperative Agricul- tural Extension Work under Sections 3(b) and 3(c) of Smith-Lever Act:				
(1) Program.....	\$125,168,619	\$133,003,680	\$ - -	\$133,003,680

Project	1976	1977 (Estimated)	Increase or Decrease	1978 (Estimated)
(2) Set-aside for Federal Administra- tion (4%).....	2,723,361	2,999,320	- -	2,999,320
Total.....	\$127,891,980	\$136,003,000	- -	\$136,003,000
(b) Retirement and em- ployees' compensation fund costs for exten- sion agents.....	15,841,000	15,977,000	+ 56,000	\$ 16,033,000
(c) Penalty Mail for Extension Agents and Extension Directors....	13,889,607	16,245,000	- -	16,245,000
Subtotal.....	\$157,622,587	\$168,225,000	\$+ 56,000	\$168,281,000
(d) Payments under Sec- tion 3(d) of Smith- Lever Act:				
(1) Nutrition and Family Education Program.....	\$ 50,560,000	\$ 50,560,000	- -	\$ 50,560,000
(2) Grants to 1890 Land- Grant Colleges and Tuskegee Institute..	7,776,602	8,400,000	+ 433,000	8,833,000
(3) Rural Development..	1,000,000	1,000,000	-1,000,000	- -
(4) Pest Management....	2,934,672	2,935,000	+1,500,000	4,435,000
(5) Farm Safety.....	1,020,000	1,020,000	- -	1,020,000
(6) Pesticide Impact Assessment.....	- -	- -	+ 735,000	735,000
Subtotal.....	\$ 63,291,274	\$ 63,915,000	\$+1,668,000	\$ 65,583,000
(e) Cooperative Exten- sion Work in the District of Columbia:				
(1) Program.....	412,800	873,600	- -	873,600
(2) Set-aside for Fed- eral Administra- tion (4%).....	36,400	36,400	- -	36,400
Total.....	\$ 449,200	\$ 910,000	- -	\$ 910,000
(f) Extension Education Program under Rural Development Act, Title V:				
(1) Program.....	\$ 1,028,401	\$ 1,440,000	- -	\$ 1,440,000
(2) Set-aside for Federal Admin- istration (4%).....	31,610	60,000	- -	60,000
Total.....	\$ 1,060,011	\$ 1,500,000	- -	\$ 1,500,000
Total, Payments to States, Puerto Rico Guam, and the Virgin Islands.....	\$222,423,072	\$234,550,000	\$+1,724,000 (1)	\$236,274,000
2. Federal Administration and Coordination (Direct Appropriation)..	5,253,559	5,945,000	\$+ 252,000 (2)	\$ 6,197,000
Unobligated Balance.....	1,258,369	- -	- -	- -
Total Available or estimate.....	\$228,935,000	\$240,495,000	\$+1,976,000	\$242,471,000
Proposed Supplemental for: Civilian Pay Increases..	- -	- 287,000		
Total Appropriation.....	\$228,935,000	\$240,208,000		

EXPLANATION OF PROGRAM

Appropriations for the "Extension Service" enable the U. S. Department of Agriculture to perform its partnership role under a cooperative commitment with the State and county governments to carry out extension work for our nation's farmers and ranchers, agricultural industries, rural families and communities, youth and other urban groups.

Current cooperative extension work is authorized under three Acts of Congress: the Smith-Lever Act, as amended; the Rural Development Act; and the D. C. Public Postsecondary Education Reorganization Act. Through these basic legislations, cooperative extension services in each of the States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia conduct various extension programs broadly classified under the following program thrusts:

- Agriculture and Natural Resources -- This program serves as the primary delivery system of agricultural research in all counties and agricultural communities throughout the States. Approximately 6,475 man-years, or 38.7% of the total cooperative extension effort is in support of this program which emphasizes the attainment of highly efficient systems of production, processing and marketing of food and fiber for the benefit of our commercial farmers, small and independent farmers, others engaged in agriculture, and the ultimate consumers.
- Community Resource Development -- This program helps our rural communities achieve economic stability and improved quality of life through assistance designed for the development of local leadership and strengthening of local organizations and units of government. Approximately 1,272 man-years or 7.6% of the total cooperative extension effort is in support of this program which includes assistance in manpower development, community services and facilities and other community development programs.
- Home Economics -- This program is directed to families and individuals at all levels of society to help them achieve their goals of improved home and family living. Approximately 3,597 man-years or 21.5% of the total cooperative extension effort is in support of this program which includes assistance in food and nutrition, clothing and textiles and the expanded nutrition education programs in the low-income areas.
- 4-H Youth -- This program is designed to help youth from all racial, ethnic, and socio-economic backgrounds develop life skills through participation in 4-H Clubs, 4-H special interest groups, instructional 4-H T. V. series, and special 4-H nutrition education programs. Approximately 5,388 man-years or 32.2% of the total extension effort is in support of this program.

JUSTIFICATION OF INCREASES AND DECREASES

- (1) An increase of \$1,724,000 for payments to States for Cooperative Agricultural Extension work consisting of:

(a) An increase of \$1,500,000 for pest management programs (\$1,385,000 available for pest management pilot projects and \$1,550,000 for cotton insect management in 11 States in FY 1977).

Need for Increase. This increase is requested to enable the Cooperative Extension Service to conduct integrated pest management programs beyond current demonstration phase with provisions for expansion for highly successful pilot projects.

Since 1972, the Cooperative Extension Services conducted 52 highly successful pilot projects in 33 States on 23 crop and 2 livestock projects. Beginning in 1975, expanded cotton insect management programs were conducted in 11 boll weevil infested States. There has been good grower acceptance of the principles of integrated pest management and willingness in employing scouts and other modern techniques in monitoring field infestations as the basis for applying pesticides and other controls for more effective, economical, and environmentally safe production system.

This increase is essential in providing additional resources to enable farmers to shift from calendar spraying for controlling agricultural pests to a more complicated process of integrated chemical, cultural, and biological control required in an increasingly complex and regulated crop protection technology. Delay in implementation of this program will forestall improvements in agricultural production efficiency, environmental improvement, and effective use of pesticides in most States.

Plan of Work. The proposed increase of \$1,500,000 will be used to expand integrated pest management programs beyond the pilot demonstration phase, and provide farmers with information on integrated pest management as required by the FIFRA, as amended. The increase will be used for the support of professional Extension staff in the States to carry out demonstrations and provide technical guidance and assistance to farmers, private pest management consultants, and to leadership of farmer cooperatives. Farmers will be required to pay all costs related to scouting individual fields. Funds will be distributed based on projects submitted by the States showing the greatest potential for attaining an effective integrated pest management program. States will be required to submit reports on program progress. State pest management steering committees will evaluate program accomplishments every three years. This increase will complement current pilot-demonstration projects and cotton insect management funds necessary in developing interdisciplinary Statewide pest management programs utilizing county, State and Federal resources.

(b) An increase of \$433,000 for grants to 1890 Land-Grant Colleges and Tuskegee Institute (\$8,400,000 available in 1977).

Need for Increase. These funds will provide for a 5% increase in salary and non-salary costs needed in maintaining the current level of basic programs conducted by these institutions.

Plan of Work. These funds will be allocated to the States under Section 3(d) of the Smith-Lever Act as indicated on table 1b.

(c) An increase of \$735,000 for the Pesticide Impact Assessment Program (Excluding an increase of \$176,000 for Federal Administration and coordination).

Need for Increase. The Pesticide Impact Assessment Program will be implemented as a coordinated effort by ARS, CSRS, ES, APHIS, ERS, and FS. The Congress looks to the Department to analyze and evaluate ramifications and impact FIFRA regulations and the effects proposed cancellations of pesticides would have on the agricultural community, economy, and to submit comprehensive responses to EPA on such topics.

Data to support retention of pesticides, subject to the Rebuttable Presumption Against Registration (RPAR) process, must be obtained from state staffs who are familiar with county, state, and regional conditions,

cropping systems, pest and pest complexes, and pesticide use patterns. Collection and analysis of available biological and economic benefit risk data on essential agricultural pesticide uses and alternatives are critical to meeting the nation's need for an economical supply of food, feed, and fiber crops.

The funds requested for the ES/CES input into the overall pesticide impact assessment program in FY 1978 are essential to providing Extension Service and State Cooperative Extension Services with a portion of the resources required for full participation in the joint cooperative USDA/Land Grant University State Agency Pesticide Impact Assessment Program.

Plan of Work. The proposed increase of \$735,000 will be made available to the States under section 3(d) of the Smith-Lever Act. This increase will be used for the support of a professional extension staff in each state who will work with the Technical Advisory Group and the USDA Pesticide Assessment Teams.

A supplemental appropriation of \$735,000 is proposed for fiscal year 1977 to finance this activity.

(d) An increase of \$56,000 for retirement and employee compensation costs associated with proposed expansion in pest management work and proposed increases for 1890 Land-Grant Colleges and Tuskegee Institute.

(e) A decrease of \$1,000,000 for the elimination of earmarked funds for community resource development (\$1,000,000 available in FY 1977).

Need for Decrease. This proposal will eliminate funds earmarked for community resource development work under section 3(d) of the Smith-Lever Act. Activities similar to this program are currently being performed by the States under the Smith-Lever formula appropriation. This proposal will also eliminate additional program and administrative overview specifically required for earmarked programs at the Federal, State, and county levels.

- (2) An increase of \$252,000 for Federal administration and coordination (\$5,945,000 available in FY 1977) consisting of:

(a) An increase of \$6,000 for annualization of pay increases effective in FY 1977.

(b) An increase of \$41,000 for Working Capital Fund services.

(c) An increase of \$29,000 for space rental costs pursuant to P. L. 92-313.

(d) An increase of \$176,000 for coordination of the Pesticide Impact Assessment Program.

Need for Increase. See justification provided for Item 1-C.

Plan of Work. This program will enable the Extension Service, USDA to employ State specialists on short-term appointments to serve on USDA Pesticide Impact teams.

This will also provide for 1 professional and 1 clerical needed for the continuing leadership and support of this program.

A supplemental appropriation of \$176,000 is proposed for FY 1977 to finance this activity.

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The following table summarizes the total funds available for Federal Administration for the Extension Service:

	<u>FY 1976</u>	<u>FY 1977</u>	<u>Increase or Decrease</u>	<u>FY 1978 Estimate</u>
Set-aside (4% of funds appropriated under Section 3(b) and 3(c) of Smith-Lever Act.....	\$2,723,361	\$2,999,320	- -	\$2,999,320
Set-aside (4% of funds for payments to District of Columbia.....	36,400	36,400	- -	36,400
Set-aside (4% of funds for Rural Development, Title V).....	60,000	60,000	- -	60,000
Direct appropriation.....	5,430,000	5,945,000	+252,000	6,197,000
Total	\$8,249,761	\$9,040,720	\$+252,000	\$9,292,720

PAYMENTS TO STATES, PUERTO RICO, GUAM, AND THE VIRGIN ISLANDS

Federal funds available for fiscal year 1977 under the appropriation "Payments to States," for cooperative agricultural extension work under the Smith-Lever Act, the D. C. Public Postsecondary Education Reorganization Act, and the Rural Development Act of 1972 total \$234,550,000. This excludes proposed supplemental request of \$735,000 for the Pesticide Impact Assessment Program. Funds available for FY 1978 are estimated at \$236,274,000.

Amounts appropriated are made available to States, Puerto Rico, Guam and the Virgin Islands by letter of credit. Funds are disbursed in accordance with budgets and plans of work submitted by the States and approved by the Extension Service on behalf of the Secretary of Agriculture. As reflected in Table III, about 38 percent of the cost of Extension work at present is being financed from Federal sources and about 62 percent from State and local sources.

The funds are used by the States for the employment of Extension workers to carry on Cooperative Agricultural Extension work. Paid Extension workers are assisted by volunteer leaders who cooperate in carrying out Extension programs.

The use of these funds is indicated in greater detail in the following tables: Table I reflects estimated allotments to the States, Puerto Rico, Guam, and the Virgin Islands under the formula provisions of Section 3(b) and 3(c) of the Smith-Lever Act. Supplementary Tables 1A, 1B, 1C, and 1D reflect the estimated allotments for Nutrition Education, payments to the 1890 Land-Grant Colleges and Tuskegee Institute, payments for rural development under Section 3(d) (Non-formula) of the Act, and payments for rural development extension education under the Rural Development Act, Title V. Table II shows the basis on which the allotments will be made and the extent to which they must be matched by the State and local sources. Table III indicates the sources of funds allotted for Cooperative Extension work in the States, Puerto Rico, Guam, and the Virgin Islands for fiscal year 1977. Table IV indicates the various classes of field agents employed with Extension funds.

Table I

APPROPRIATION FOR PAYMENTS TO STATES, STATE ALLOTMENTS, FY 1977 - 1978

Smith-Lever Act: Sections 3(b) and 3(c) ²	FY - 1977	Inc. or Dec. FY 1978	Total Proposed for FY 1978
Alabama	\$ 3,828,625	\$ --	\$ 3,828,625
Alaska	450,505	--	450,505
Arizona	841,696	--	841,696
Arkansas	3,146,130	--	3,146,130
California	3,508,449	--	3,508,449
Colorado	1,339,669	--	1,339,669
Connecticut	981,174	--	981,174
Delaware	545,519	--	545,519
Florida	1,933,436	--	1,933,436
Georgia	4,139,870	--	4,139,870
Guam	415,887	--	415,887
Hawaii	645,999	--	645,999
Idaho	1,162,228	--	1,162,228
Illinois	4,448,249	--	4,448,249
Indiana	3,916,768	--	3,916,768
Iowa	4,149,449	--	4,149,449
Kansas	2,528,249	--	2,528,249
Kentucky	4,447,365	--	4,447,365
Louisiana	2,733,241	--	2,733,241
Maine	1,021,055	--	1,021,055
Maryland	1,543,490	--	1,543,490
Massachusetts	1,257,205	--	1,257,205
Michigan	4,076,145	--	4,076,145
Minnesota	3,924,175	--	3,924,175
Mississippi	4,033,318	--	4,033,318
Missouri	4,046,309	--	4,046,309
Montana	1,101,768	--	1,101,768
Nebraska	2,237,812	--	2,237,812
Nevada	457,500	--	457,500
New Hampshire	677,927	--	677,927
New Jersey	1,229,038	--	1,229,038
New Mexico	934,375	--	934,375
New York	3,909,482	--	3,909,482
North Carolina	6,099,862	--	6,099,862
North Dakota	1,567,404	--	1,567,404
Ohio	4,935,333	--	4,935,333
Oklahoma	2,721,760	--	2,721,760
Oregon	1,552,437	--	1,552,437
Pennsylvania	4,896,111	--	4,896,111
Puerto Rico	4,080,347	--	4,080,347
Rhode Island	462,820	--	462,820
South Carolina	3,088,134	--	3,088,134
South Dakota	1,597,108	--	1,597,108
Tennessee	4,424,272	--	4,424,272
Texas	6,213,679	--	6,213,679
Utah	750,471	--	750,471
Vermont	779,760	--	779,760
Virginia	3,670,912	--	3,670,912
Virgin Islands	401,998	--	401,998
Washington	1,867,850	--	1,867,850
West Virginia	2,159,768	--	2,159,768
Wisconsin	3,922,831	--	3,922,831
Wyoming	653,807	--	653,807
Subtotal	\$131,458,771	\$ --	\$131,458,771
Special Needs, Sec. 3(b), Smith-Lever Act	1,544,909	--	1,544,909
Retirement and Employees' Compensation Costs	15,977,000	56,000	16,033,000
Penalty Mail Costs (Extension Agents & Directors)	16,245,000	--	16,245,000
Fed. Admin. & Coord., Sec. 3(c)1, Smith-Lever Act	2,999,320	--	2,999,320
Funds for Allocation, Sec. 3(d), Smith-Lever Act:			
Expanded Nutrition Program 1/	50,560,000	--	50,560,000
1890 Land-Grant Colleges & Tuskegee Institute 2/	8,400,000	433,000	8,333,000
Rural Development 3/	1,000,000	-1,000,000	--
Pest Management	2,935,000	1,500,000	4,435,000
Farm Safety	1,020,000	--	1,020,000
Pesticide Impact Assessment		735,000	735,000
Extension Work under D.C. Public Postsecondary Education Reorganization Act, including Federal Administration	910,000	--	910,000
Title V, Rural Development Act 4/	1,500,000	--	1,500,000
TOTAL	\$234,550,000 ^a	\$1,724,000	\$236,274,000

1/See Table 1A. 2/See Table 1B. 3/See Table 1C. 4/See Table 1D.

a/Excludes proposed supplemental request of \$735,000.

Table 1A

APPROPRIATIONS FOR PAYMENTS TO STATES
NUTRITION EDUCATION, FY 1977 - 1978

Smith-Lever Act: Section 3(d)	Fiscal Year 1977	Increase or Decrease Fiscal Year 1978	Total Proposed for FY 1978
Alabama	\$ 1,641,526	--	\$ 1,641,526
Alaska	140,290	--	140,290
Arizona	449,368	--	449,368
Arkansas	1,045,522	--	1,045,522
California	2,818,760	--	2,818,760
Colorado	444,967	--	444,967
Connecticut	361,060	--	361,060
Delaware	180,043	--	180,043
Florida	1,637,125	--	1,637,125
Georgia	1,787,339	--	1,787,339
Hawaii	210,996	--	210,996
Idaho	237,548	--	237,548
Illinois	2,021,033	--	2,021,033
Indiana	992,567	--	992,567
Iowa	754,045	--	754,045
Kansas	568,628	--	568,628
Kentucky	1,376,602	--	1,376,602
Louisiana	1,526,815	--	1,526,815
Maine	347,859	--	347,859
Maryland	683,489	--	683,489
Massachusetts	780,598	--	780,598
Michigan	1,610,509	--	1,610,509
Minnesota	820,351	--	820,351
Mississippi	1,416,355	--	1,416,355
Missouri	1,279,493	--	1,279,493
Montana	241,949	--	241,949
Nebraska	444,967	--	444,967
Nevada	135,889	--	135,889
New Hampshire	193,394	--	193,394
New Jersey	851,154	--	851,154
New Mexico	409,764	--	409,764
New York	3,201,222	--	3,201,222
North Carolina	2,114,018	--	2,114,018
North Dakota	286,103	--	286,103
Ohio	1,791,739	--	1,791,739
Oklahoma	860,105	--	860,105
Oregon	392,013	--	392,013
Pennsylvania	2,361,127	--	2,361,127
Puerto Rico	944,013	--	944,013
Rhode Island	246,349	--	246,349
South Carolina	1,275,092	--	1,275,092
South Dakota	321,476	--	321,476
Tennessee	1,641,526	--	1,641,526
Texas	3,584,238	--	3,584,238
Utah	246,349	--	246,349
Vermont	193,415	--	193,415
Virginia	1,403,154	--	1,403,154
Washington	542,226	--	542,226
West Virginia	811,551	--	811,551
Wisconsin	780,618	--	780,618
Wyoming	153,661	--	153,661
TOTAL	\$50,560,000	--	\$50,560,000

Table 1B

APPROPRIATIONS FOR PAYMENTS TO THE 1890 LAND-GRANT COLLEGES
AND TUSKEGEE INSTITUTE, FY 1977 - 1978

Smith-Lever Act: Section 3(d)	Fiscal Year 1977	Inc. or Dec. FY 1978	Total Proposed for FY 1978
ALABAMA:			
Alabama A&M University	\$ 459,172	\$ 22,546	\$ 481,718
Tuskegee Institute	459,172	22,546	481,718
ARKANSAS:			
Univ. of Arkansas at Pine Bluff	395,131	19,662	414,793
DELAWARE:			
Delaware State College	165,400	5,645	171,045
FLORIDA:			
Florida A&M University	349,024	17,463	366,487
GEORGIA:			
Fort Valley State College	511,839	26,072	537,911
KENTUCKY:			
Kentucky State College	598,144	34,098	632,242
LOUISIANA:			
Southern Univ. and A&M College	382,048	18,822	400,870
MARYLAND:			
Univ. of Maryland Eastern Shore	297,258	13,925	311,183
MISSISSIPPI:			
Alcorn A&M College	484,680	23,469	508,149
MISSOURI:			
Lincoln University	570,722	31,991	602,713
NORTH CAROLINA:			
North Carolina A&T State Univ.	797,060	43,326	840,386
OKLAHOMA:			
Langston Universtiy	364,597	18,660	383,257
SOUTH CAROLINA:			
South Carolina State College	418,819	19,649	438,468
TENNESSEE:			
Tennessee A&I State University	587,040	31,588	618,628
TEXAS:			
Prairie View A&M College	717,435	39,930	757,365
VIRGINIA:			
Virginia State College	506,459	26,288	532,747
Special Projects	336,000	17,320	353,320
TOTAL	\$8,400,000	\$ 433,000	\$ 8,833,000

Table 1C

APPROPRIATIONS FOR PAYMENTS TO STATES
RURAL DEVELOPMENT, FY 1977 - 1978

Smith-Lever Act: Section 3(d)	Fiscal Year 1977	Increase or Decrease Fiscal Year 1978	Total Proposed for FY 1978
Alabama	\$ 24,636	\$- 24,636	
Alaska	4,904	- 4,904	
Arizona	7,626	- 7,626	
Arkansas	19,435	- 19,435	
California	25,470	- 25,470	
Colorado	10,516	- 10,516	
Connecticut	9,219	- 9,219	
Delaware	5,369	- 5,369	
Florida	15,832	- 15,832	
Georgia	27,472	- 27,472	
Hawaii	4,966	- 4,966	
Idaho	9,632	- 9,632	
Illinois	32,109	- 32,109	
Indiana	29,584	- 29,584	
Iowa	30,073	- 30,073	
Kansas	17,733	- 17,733	
Kentucky	29,264	- 29,264	
Louisiana	18,679	- 18,679	
Maine	8,470	- 8,470	
Maryland	13,141	- 13,141	
Massachusetts	10,856	- 10,856	
Michigan	31,869	- 31,869	
Minnesota	28,543	- 28,543	
Mississippi	27,006	- 27,006	
Missouri	28,127	- 28,127	
Montana	8,875	- 8,875	
Nebraska	16,083	- 16,083	
Nevada	4,689	- 4,689	
New Hampshire	6,511	- 6,511	
New Jersey	10,698	- 10,698	
New Mexico	7,482	- 7,482	
New York	30,909	- 30,909	
North Carolina	45,108	- 45,108	
North Dakota	11,686	- 11,686	
Ohio	36,119	- 36,119	
Oklahoma	16,472	- 16,472	
Oregon	12,305	- 12,305	
Pennsylvania	36,857	- 36,857	
Puerto Rico	32,799	- 32,799	
Rhode Island	4,726	- 4,726	
South Carolina	22,724	- 22,724	
South Dakota	11,892	- 11,892	
Tennessee	30,899	- 30,899	
Texas	38,396	- 38,396	
Utah	6,387	- 6,387	
Vermont	7,187	- 7,187	
Virginia	26,447	- 26,447	
Washington	14,681	- 14,681	
West Virginia	14,461	- 14,461	
Wisconsin	29,233	- 29,233	
Wyoming	5,843	- 5,843	
Special Projects	40,000	- 40,000	
TOTAL	\$1,000,000	\$-1,000,000	

Table 1D

APPROPRIATIONS FOR PAYMENTS TO STATES
TITLE V of RURAL DEVELOPMENT ACT of 1972
FY 1977 - 1978

	Fiscal Year 1977	Increase or Decrease Fiscal Year 1978	Total Proposed for FY 1978
Alabama	27,948	--	27,948
Alaska	7,340	--	7,340
Arizona	10,478	--	10,478
Arkansas	24,529	--	24,529
California	32,862	--	32,862
Colorado	15,092	--	15,092
Connecticut	12,920	--	12,920
Delaware	7,908	--	7,908
Florida	21,925	--	21,925
Georgia	32,135	--	32,135
Hawaii	7,392	--	7,392
Idaho	14,215	--	14,215
Illinois	47,489	--	47,489
Indiana	43,813	--	43,813
Iowa	46,216	--	46,216
Kansas	26,419	--	26,419
Kentucky	41,640	--	41,640
Louisiana	23,537	--	23,537
Maine	11,585	--	11,585
Maryland	17,723	--	17,723
Massachusetts	14,871	--	14,871
Michigan	42,727	--	42,727
Minnesota	43,516	--	43,516
Mississippi	29,046	--	29,046
Missouri	39,131	--	39,131
Montana	13,518	--	13,518
Nebraska	24,703	--	24,703
Nevada	7,166	--	7,166
New Hampshire	9,298	--	9,298
New Jersey	14,898	--	14,898
New Mexico	10,802	--	10,802
New York	40,537	--	40,537
North Carolina	52,593	--	52,593
North Dakota	17,737	--	17,737
Ohio	50,843	--	50,843
Oklahoma	23,336	--	23,336
Oregon	17,955	--	17,955
Pennsylvania	49,096	--	49,096
Puerto Rico	34,225	--	34,225
Rhode Island	7,119	--	7,119
South Carolina	24,517	--	24,517
South Dakota	18,560	--	18,560
Tennessee	38,662	--	38,662
Texas	48,565	--	48,565
Utah	9,264	--	9,264
Vermont	10,114	--	10,114
Virginia	32,386	--	32,386
Washington	20,705	--	20,705
West Virginia	18,765	--	18,765
Wisconsin	43,317	--	43,317
Wyoming	8,862	--	8,862
4%--Federal Admin.	60,000	--	60,000
10% to finance work in two or more States	150,000	--	150,000
TOTAL	\$1,500,000	--	\$1,500,000

Table II

APPROPRIATION FOR PAYMENTS TO STATES

Basis of Allotment and Matching Required, Fiscal Year 1978

Item	Total Estimate 1978	Allotment	Amount Paid Without Matching	Amount Required Matching
Smith-Lever Act:	\$233,864,000			
Section 3(b)		\$ 56,475,091 - Fixed by Section 3(b) of Public Law 87-749	\$ 14,513,808	\$ 41,961,283
		1,544,909 - Special Needs	--	1,544,909
Section 3(c)		77,983,000	2,999,320	74,983,680
		29,913,472 - by farm population		
		29,913,472 - by rural population		
		15,156,736 - equally; and		
		2,999,320 - for federal administra- tion and co- ordination, Section 3(c)1		
Section 3(d)		65,583,000 - Allocated on basis of ap- proved pro- jects.	65,583,000	--
Retirement and Employee Compensation Costs		16,033,000 - Federal con- tribution to these funds	16,033,000	--
Penalty Mail		16,245,000 - Reimbursement to the Postal Service	16,245,000	--
Title V, Rural Development Act:	1,500,000	1,500,000	1,500,000	--
		1,440,000 - Allocated on basis of ap- proved pro- jects		
		60,000 - for federal administra- tion and co- ordination		
D.C. Public Post- secondary Edu- cation Reorgan- ization Act	910,000	910,000	36,400	873,600
		873,600 - to District of Columbia		
		36,400 - for fed. ad- min. & coord.		
TOTAL	\$236,274,000	\$236,274,000	\$116,910,528	\$119,363,472

Table III

SOURCES OF FUNDS ALLOTTED FOR COOPERATIVE EXTENSION WORK

For Fiscal Year Ending September 30, 1977

STATES	GRAND TOTAL	Total Federal Funds	Total Within States	FUNDS FROM FEDERAL SOURCES		STATE	COUNTY	NON-TAX
				Smith-Lever Act	Title V, RD Act of 1972			
Alabama	\$ 14,023,547	\$ 6,461,079	\$ 7,562,468	\$ 6,433,131	\$ 27,948	\$ 5,930,000	\$ 1,482,409	\$ 150,059
Alaska	1,920,039	665,039	1,255,000	657,699	7,340	1,255,000	--	--
Arizona	4,328,956	1,442,868	2,886,088	1,432,390	10,478	2,559,516	142,373	184,199
Arkansas	11,305,747	4,650,747	6,655,000	4,626,218	24,529	5,740,681	824,219	90,100
California	26,615,502	6,405,561	20,209,961	6,372,679	32,862	14,830,166	4,525,691	854,104
Colorado	7,175,773	1,900,244	5,275,529	1,885,152	15,092	3,299,360	1,818,396	157,773
Connecticut	2,277,096	1,384,373	893,523	1,371,453	12,920	893,523	--	--
Delaware	1,573,567	924,239	649,328	916,311	7,908	544,628	8,600	96,100
Florida	11,980,825	3,977,362	8,007,483	3,955,417	21,925	5,754,273	1,960,947	292,263
Georgia	19,107,699	6,518,655	12,589,044	6,406,520	32,135	8,919,636	2,509,041	1,160,367
Hawaii	674,111	415,887	258,224	415,887	--	258,224	--	--
Idaho	2,812,671	809,353	1,923,318	881,961	7,392	1,923,318	--	--
Illinois	4,730,883	1,519,903	3,210,980	1,505,608	14,215	2,199,300	945,000	66,680
Indiana	15,596,321	6,560,880	9,027,441	6,521,391	47,489	6,724,803	1,119,310	1,183,328
Iowa	13,202,398	5,002,732	8,199,666	4,958,919	43,813	3,845,235	3,807,303	547,128
Kansas	14,457,116	4,999,783	9,457,333	4,953,567	46,216	5,675,733	3,694,000	87,600
Kentucky	13,604,830	3,200,529	10,404,301	3,174,110	26,619	3,910,281	4,700,000	1,794,020
Louisiana	13,011,644	6,513,015	6,490,629	6,471,375	41,640	4,226,083	2,272,546	--
Maine	13,104,613	4,704,320	8,400,293	4,680,783	23,537	7,913,548	480,455	6,290
Maryland	3,036,141	1,408,969	1,627,172	1,397,384	11,585	1,206,194	396,508	24,470
Massachusetts	7,619,839	2,575,101	5,044,738	2,557,378	17,723	3,614,007	1,422,731	8,000
Michigan	5,065,843	2,003,530	2,982,313	2,068,659	14,871	876,244	2,106,069	--
Minnesota	13,535,821	5,781,250	7,754,571	5,738,523	42,727	7,034,600	347,079	372,892
Mississippi	13,629,222	4,836,505	8,792,637	4,793,069	43,516	5,549,178	3,193,812	49,647
Missouri	13,236,378	6,010,405	7,227,973	5,981,359	29,046	5,844,330	1,226,344	157,299
Montana	12,885,678	5,983,782	6,901,896	5,944,651	39,131	6,778,896	123,000	--
Nebraska	4,187,279	1,480,410	2,706,869	1,466,892	13,518	1,242,732	1,277,237	186,900
Nevada	9,893,961	2,787,865	7,106,096	2,763,162	24,703	4,321,242	2,478,365	306,489
New Hampshire	2,412,833	711,344	1,701,489	704,178	7,166	1,228,226	473,263	--
New Jersey	1,904,632	907,130	1,077,502	897,832	9,298	608,776	468,726	--
New York	7,100,773	2,125,788	4,974,985	2,110,890	14,898	2,914,238	2,060,747	--

STATES	GRAND TOTAL	Total Federal Funds	Total Within States	FUNDS FROM FEDERAL SOURCES		STATE	COUNTY	NON-TAX
				Smith-lever Act	Title V, HB Act of 1972			
New Mexico	\$ 3,716,923	\$ 1,479,923	\$ 2,237,000	\$ 1,469,121	\$ 10,802	\$ 1,660,000	\$ 577,000	\$ --
New York	22,929,506	7,202,150	15,727,356	7,161,613	40,537	4,592,700	10,343,731	790,925
North Carolina	23,281,812	9,128,641	14,153,171	9,076,048	52,593	9,517,170	4,500,000	136,001
North Dakota	4,894,490	1,976,930	2,917,560	1,959,193	17,737	1,524,140	1,145,244	248,176
Ohio	16,027,914	6,834,034	9,193,880	6,703,191	50,843	4,874,925	3,886,800	432,155
OKlahoma	10,750,470	4,006,270	6,744,200	3,982,934	23,336	4,369,200	1,825,000	550,000
Oregon	8,317,540	2,032,710	6,284,830	2,014,755	17,955	4,799,341	1,485,489	--
Pennsylvania	13,003,756	7,363,191	5,640,565	7,314,095	49,096	3,540,565	2,100,000	--
Puerto Rico	7,922,645	5,111,384	2,811,261	5,077,159	34,225	2,811,261	--	--
Rhode Island	1,311,457	741,014	570,443	733,895	7,119	510,536	59,907	--
South Carolina	10,256,750	4,849,286	5,407,464	4,824,769	24,517	5,237,008	57,500	112,956
South Dakota	4,950,923	2,005,036	2,945,887	1,986,476	18,560	2,130,200	799,851	15,836
Tennessee	13,314,180	6,742,399	6,571,781	6,703,737	38,662	4,791,100	1,636,181	144,500
Texas	31,862,173	10,718,413	21,143,760	10,669,048	48,565	15,238,384	5,654,122	251,254
Utah	3,768,548	1,127,471	2,641,077	1,118,207	9,264	2,160,440	440,637	40,000
Vermont	2,464,712	1,022,476	1,442,236	1,012,362	10,114	1,198,564	234,772	8,900
Virginia	19,470,446	5,659,358	13,811,088	5,626,972	32,386	10,733,728	3,077,360	--
Virgin Islands	516,498	401,998	114,500	401,998	--	114,500	--	--
Washington	7,690,883	2,465,462	5,225,421	2,444,757	20,705	3,184,998	1,912,311	128,112
West Virginia	5,787,274	3,024,545	2,762,729	3,005,780	18,765	1,539,412	1,215,833	7,484
Wisconsin	15,708,196	4,795,999	10,912,197	4,752,682	43,317	6,097,899	4,652,013	162,285
Wyoming	2,310,841	887,173	1,423,668	878,311	8,862	1,004,925	418,743	--
Unallotted	3,946,129	3,946,129		3,796,129 ^{1/}	150,000 ^{2/}			
GRAND TOTAL	\$520,302,604	\$198,358,680	\$321,943,924	\$196,918,680	\$1,440,000	\$219,252,967	\$91,886,665	\$10,804,292

District of
Columbia 3/

1,699,200 873,600 825,600 873,600 -- 825,600 --

1/ Includes \$2,935,000 for Post Management Funds not distributed at this time.

2/ Not distributed at this time.

3/ D. C. Postsecondary Education Reorganization Act.

Table IV

COOPERATIVE EXTENSION AGENTS, BY ORGANIZATION CLASSES
(Man-Year Equivalents)

Extension Workers by Organization Classes	Fiscal Year 1975	Fiscal Year 1976	Fiscal Year 1977
<u>State Workers:</u>			
Directors and Administrative personnel.....	440	476	460
Specialists.....	4,086	4,224	4,179
Total, State Staff.....	4,526	4,700	4,639
<u>County Workers:</u>			
Leaders and Supervisors.....	695	675	647
Area Agents.....	1,397	1,351	1,343
County Extension Agents.....	9,925	10,006	9,650
Total, County Staff.....	12,017	12,032	11,640
Grand Total.....	16,543	16,732	16,279

STATUS OF PROGRAM

Cooperative extension work is conducted in each of the States, Puerto Rico, Guam, the Virgin Islands, and the District of Columbia by 70 land-grant institutions and Tuskegee Institute through a unique cooperative arrangement between the Department of Agriculture and the State and local governments. It is the world's largest and most successful system of informal education oriented to helping people solve problems and develop opportunities in their homes, businesses, and communities. This system has perceptively attuned its emphasis over the years with the changing needs of the time through a sound and efficient staff of highly trained extension agents working at the "grass roots level." However, there now exists a need for priority setting to maximize program impact and concentrate on problems of extreme program need because of increasing concerns for environmental quality, high energy costs, and other problems previously beyond the scope of traditional extension programs. Primary objectives continue to be directed towards an intensive educational program aimed at our nation's farmers and ranchers; agricultural industries, rural families and communities, and youth living outside of cities with populations of 50,000 and over. Extension program priorities take into account current concerns for maintaining environmental quality standards, the wise use of available energy, and assistance to limited resource farmers as significant components of the Department's primary mission towards increased efficiencies in the production, marketing, and utilization of food and fiber. Furthermore, extension aides are now being utilized to meet increased demands for nutrition, 4-H, and home gardening programs in our larger cities where expanded assistance has been directed by the Congress.

Extension education programs are classified under four broad categories: Agriculture and Natural Resources, Home Economics, 4-H Youth Development, and Community Resource Development. Current activities, progress, and current programs under each of the four major program categories are outlined below.

AGRICULTURE AND NATURAL RESOURCES

The agriculture and natural resources staff of the Cooperative Extension Service serve as the primary delivery system of agricultural research in all counties and agricultural communities throughout the United States. The primary program objective is to serve our nation's commercial farmers and provide continued assistance to small or low-income farmers and urban gardeners, utilizing paraprofessionals trained and supervised by the local Extension staff.

Approximately 70% of all extension education programs in agriculture and natural resources are for work with commercial farmers, 25% for work with small or low-income farmers and 5% with home gardeners.

I. Assistance to Commercial Agriculture

Through the USDA and the Land Grant Universities the Cooperative Extension Service provides educational programs to farmers to help them continually modernize and update management abilities and use technological information available from research. Highly trained specialists and agents integrate research findings into extension programs which help farmers, and those firms serving farmers, to put together highly efficient production systems which compete effectively throughout the world.

Extension has become increasingly involved in helping farmers meet requirements imposed by regulatory agencies at minimal costs and with the least adverse effect on farm production. Indications are that regulatory programs will have far reaching effects, and many management practices employed in animal and crop production will have to be altered in the coming years to meet complex environmental standards. The following programs are carried out by the Cooperative Extension Services for the benefit of our nation's commercial farmers.

Environmental Improvement--The national Extension staff, in cooperation with specialists in State Extension Services, provided EPA significant information for the development and promulgation of feasible and practicable regulations for concentrated animal feeding facilities for control of point source pollution. A USDA position paper has been developed pointing to potential adverse effects to agriculture from the proposed Dredge and Fill permit requirements issued by EPA under Section 404, P. L. 92-500. The Extension staff continues to be instrumental in encouraging farmer representation on State and Regional Area-wide Waste Treatment Management Committees, which have responsibility for development of programs to control non point pollution.

Extension assistance is also provided through the cooperation with EPA-USDA and university staffs on the development of feasible methodologies to assure the benefit and environmentally safe use of municipal wastes on agricultural lands, emphasis on soil testing in making fertilizer recommendation in order to provide adequate rates and kinds of fertilizer without excessive use, and programs to provide information on timber harvesting practices and wood processing to reduce pollution problems.

Farm Safety--This program was initiated in FY 1975 with funds provided to help defray the costs of employing farm safety leaders in each state. Currently, 45 states have full-time farm safety leaders and the remaining states have part-time leaders. Voluntary safety surveys, conducted in cooperation with the National Safety Council, are proceeding as scheduled. Eight states conducted these surveys in 1975, nine in 1976, and eleven have surveys scheduled for 1977. Emphasis has been placed on informing farmers about standards as well as proposed standards established by regulatory agencies. Efforts are currently underway in cooperation with the National Safety Council to develop a three-hour safety program for use by the county agents to inform farmers about regulatory programs, hazards in the work place, and how to avoid those hazards.

Pest Management Program--During the period from 1972-1976, 52 pilot and developmental projects were conducted in 33 states on 23 crops and two livestock projects. These projects involved the application of research from several pest control disciplines which have been incorporated into integrated programs designed to control agricultural pests. Initially the programs were oriented to the control of insects, but have been broadened to include management of diseases, weeds, and nematodes on many crops. In addition, two projects were initiated for managing insects in livestock. Statewide programs were initiated in the 11 boll weevil infested states during FY 1976 to manage boll weevils and other major cotton pests. This program is demonstrating that pesticides can be applied more effectively, often with a reduction in their use. Monitoring of fields has often prevented unwarranted application of pesticides.

A popular publication on integrated pest management has been developed to provide farmers information on integrated pest management as required by 1975 amendment to FIFRA, which requires that all pesticide applicators, who use restricted use pesticides, must be certified to apply them before October 21, 1977. Under an agreement with EPA and with partial funding from that agency, a program is under way to train both commercial and private applicators (farmers). As of June 30, 1976, about 130,000 private and 65,000 commercial pesticide applicators had been trained.

Management Decisions of Farmers--Several publications and other educational materials have been developed to help farmers understand the marketing alternatives available to them in the sale of their products. In the case of wheat, for example, farmers were presented with ten marketing alternatives such as to sell cash wheat at harvest, forward price wheat by use of futures, contract cash wheat before harvest, and transfer speculation from cash grain to futures. In the area of direct marketing of their products, farmers were provided information on location, management, and operation of roadside markets as well as how to establish and operate "pick your own" enterprises.

In an effort to speed-up transmission of national crop and livestock reports and outlook information to farmers, the Extension Service is cooperating with the Statistical Reporting Service (SRS) and the Economic Research Service (ERS) to utilize a time-sharing computer and make the Department's information available to farmers through the Extension staff immediately upon release. This program is being carried out on a pilot project with about 20 states and involves approximately 140 SRS and ERS reports.

Agricultural Transportation--Educational programs were conducted in 17 northeastern and midwestern states involved in the rail reorganization plan. Extension efforts were designed to develop a greater understanding of the provisions of the Rail Reorganization Act of 1974. This work was carried out with assistance from the staff of the Interstate Commerce Commission's Rail Services Planning Office and the U. S. Railway Association.

Plans are underway to expand Extension's educational programs in the transportation of agricultural commodities through the initiation of a multi-state pilot project to develop educational materials which can be used throughout the Service.

Minimum Tillage--Extension continues to assist farmers in evaluating minimum tillage systems and methods such as no-tillage planting, reduced tillage methods, wheel track planting, and other systems. Extensive use of field demonstrations, field days, and mass media have been made to explain how minimum tillage systems have increased rainfall intake in the soil, reduced soil erosion, and reduced labor and fuel requirements. A USDA survey indicated that minimum tillage acreage increased from 3.7 million acres in 1963 to 32.6 million in 1974.

Commodity Programs -- Significant extension activities have been applied to key commodity areas, including the following: Beef, dairy, swine, wheat, soybeans, cotton, forestry and wood products, and animal health. Extension information, provided through publications, seminars and computerized information services, has assisted producers in achieving more efficient production methods, adopting more profitable marketing strategies, forming farmer cooperatives, and in improving all aspects of farm management. Highlights are as follows:

- A cooperative effort with the Farmer Cooperative Service (FCS) and beef industry leaders has been established to explore the possibility of organizing cattle merchandising cooperatives to provide cattlemen with greater flexibility and increased market power. In addition, a cooperative effort with the cattle industry and the Agricultural Marketing Service (AMS) has been initiated to help farmers understand and effectively participate in the referendum provided for under the Beef Research and Information Act.
- A computerized dairy-management pilot project is underway in the 12 southeastern states. Extension and research staffs, using individual dairymen's production, size of cows, and local feeds of given quantities, are devising computerized feeding systems and information delivery techniques that suggest each month how much and what feeds will help herds produce efficiently. Dairymen are reducing feeding costs which now represent 60-65 percent of the total cost of milk production.
- A special educational program to solve air pollution problems and solid waste handling, incineration and heat recovery for use in seed cotton drying was conducted in cooperation with five State Extension Services, EPA, the cotton industry, ARS, and Cotton, Incorporated.
- Educational efforts in animal health were intensified to aid in a national effort for the eradication of hog cholera, bovine tuberculosis and brucellosis. The Extension Service cooperated with Livestock Conservation, Inc., in developing a national seminar on pseudorabies in swine resulting in a comprehensive publication of the subject which was developed for national distribution. An Extension staff member was instrumental in the establishment of a U. S. Animal Health Association multi-disciplinary committee to address the broad implications of mycotoxins in livestock and poultry. This committee will develop comprehensive information on the clinical aspects of mycotoxicoses.

II. Assistance to Small and Limited Resource Farmers

Nearly one-fourth of Extension resources devoted to agriculture and natural resource programs are utilized in working with small limited resource farmers. In these programs, emphasis has been placed on farm business management, farm organization, and the acquisition of additional resources to help individuals improve their income as well as improved technology. During the past ten years, ES-USDA has supported a wide variety of pilot and developmental projects which have led to developing a body of knowledge in subject matter and methodology for the conduct of highly successful Extension programs for this clientele.

The major effort in this program is devoted to helping farmers improve agricultural opportunities. Where these farmers have better opportunities outside of agriculture, they are encouraged to examine their alternative opportunities. Pilot projects with limited resource and small farm programs are underway in Maryland, Virginia, Texas, Missouri, and Minnesota. In these programs paraprofessionals work with 20-30 individual farmers who are not being reached effectively through on-going Extension programs. Experience to date indicates that many of these farmers soon reach a point where they can participate in many of the current on-going Extension programs designed for commercial agriculture.

In Missouri, where an intensive pilot or developmental program for work with limited resource farmers was conducted, a study revealed that the benefit-cost ratio was 3.5 to 1.0 for public investments in this program designed to upgrade farming operations. Experience in several other pilot projects indicates that similar opportunities exist for improving incomes and the level of living of this clientele group through intensive programs conducted by paraprofessionals. While the benefit-cost ratio is favorable for investments in this program, it is important to recognize that this work will not significantly increase agricultural production.

III. Assistance to Urban Gardeners (Home Horticulture)

During recent years there has been a constant increase in the demand for information about home gardening from non-farm people throughout the country. The County Extension Office is recognized as an important source of information on home gardening for both individuals, garden stores and centers. The requests from non-farm residents for this information and assistance have resulted in increased demands on county Extension staffs throughout the Nation. A recent Gallup survey indicated that 51 percent of the families in the country currently are engaged in home gardening activities. The proportion of families engaging in home gardening has increased about 2 percent per year since 1971.

In FY 1976, the Congress provided the Cooperative Extension Service with an increase of \$2 million for the conduct of programs with home gardeners and small and part-time farmers. State Extension Services expanded programs based on the needs in each state. Approximately 60 percent of these funds have been used to help meet the increased demands from non-farm people for information about home gardening.

A two-year study was conducted in Minnesota and Wisconsin to determine ways of meeting the demands for home horticulture information through improved methodology and with a view to increasing efficiency. While this study pointed to ways of increasing the efficiency and effectiveness of the program through the recruitment and training of voluntary master gardeners and other means, increased demand for home gardening information in urban areas has constantly taxed the resources available to Extension agents in and around urban communities. Throughout the country State Extension Services currently devote more than 500 man-years annually to home horticultural programs which provide non-farm residents with information and assistance on gardening, lawns, shrubs and shade trees.

COMMUNITY RESOURCE DEVELOPMENT

The Extension program in community resource development is directed toward helping communities solve their problems and achieve their goals of increased economic opportunities and improved quality of life. In addition to applying the latest scientific and technical knowledge and information to specific community problems, the program emphasizes the development of local leadership and strengthening of local organizations and units of local government. This provides communities with increased capacities to deal with current and potential problems on a self-sustaining basis.

During FY 1976, with community resource development assistance from the State Cooperative Extension Services, 51,664 different community projects were planned, initiated, or completed.

- I. Community Organization and Leadership Development--Community organization and leadership development assistance supports the efforts of local individual citizens and ad hoc or permanent groups to influence the governing decisions used in determining public expenditure patterns, what the community will look like in the future, who will be served, and who will bear the costs. It facilitates involvement of local citizens in governing processes.

During the past three years Extension has had more than 1 million contacts with clientele seeking assistance relating to organizing community groups and developing leaders. About one-fourth of the contacts were with elected and appointed officials of local and state governments. They were seeking assistance in: (1) providing the services and facilities that are being requested by their constituents, and (2) involving local people effectively in the governing processes of the community. These problems are particularly acute in rural communities experiencing in-migration of people with backgrounds and values that are different from the indigenous populations.

- II. Economic and Manpower Development--In the past year substantial progress was made towards the goal of increased business and economic development to raise personal income, to create employment opportunities, and to strengthen the economic base of rural America.

Important accomplishments included educational programs for small retail businessmen and manufacturers in several states. New businesses, industries, cooperatives, farmers' markets and processing plants were established with the help of Extension technical assistance and feasibility studies. In all, 3,015 business and industrial projects were assisted significantly and 864 surveys and feasibility studies were conducted. Assistance to existing or new industries in rural areas included solving managerial, technical, personnel, and fiscal problems that were hampering the growth of rural business and industry. For instance, Extension agents were instrumental in helping a small Maine town replace its largest industry, a mill which operated for nearly 100 years, which was forced to close. The agents provided assistance which led to a new industry employing 50 people, with plans to hire 50 more.

- III. Community Services and facilities--The Cooperative Extension services in the various states helped conduct over 10,000 conferences and workshops on community services and facilities. In addition, 1,729 feasibility studies were conducted and over 6,000 projects assisted.

Extension staffs provided technical assistance and helped local citizens and local governments develop alternative sources of funds for such services and facilities as water, sewage, solid waste, local government buildings, recreation, health care and fire protection.

Technical assistance was provided in all aspects of community services and ranged from preparing a police management guidelines publication for Delaware communities to the feasibility of nuclear generation of power in Arizona.

One method used by Extension to improve health services was that of assisting in organizing and conducting preventive health screening and educational programs for such illnesses as hypertension, glaucoma, diabetes, tuberculosis, hearing loss, and cancer. A second focus of Extension health education efforts centered on increasing the knowledge of local leaders, health and welfare organizations, and public decision makers regarding local health service needs and factors to consider in community decision making to address those needs.

- IV. Housing--The price of housing continued on an upward spiral in FY 1976, making it increasingly difficult for low and moderate income families to afford adequate shelter. The continuing economic recession with its major reduction in housing construction placed additional pressure on the rural housing situation. Increasing costs for energy consumption in the home, the special housing needs of the elderly, and changing emphases of Federal and State housing programs were other factors contributing to the identification of rural housing needs as a major rural development problem area.

Extension provided extensive assistance to developing housing projects for the elderly in Maryland and Kentucky and in other States. Thousands of families were provided house plans for low to moderate priced homes. The potential for mobile homes to provide reasonably-priced housing was the focus of major Extension educational efforts in Delaware, New York and North Carolina. Increasing emphasis was placed on energy conservation in the home, self-help and nonprofit housing projects, and community approaches to meeting elderly housing needs.

Relatively new program thrusts in housing included the use of paraprofessional program aides working with individual families, housing management training for public and nonprofit housing supervisors, and training of local housing code officials. Additional work was also done in conducting local housing needs studies and in the preparation and distribution of housing publications, a number of which included Spanish language translations.

Nearly 3,600 community housing projects were significantly assisted by Extension housing activities in FY 1976, a 12 percent increase as compared to FY 1975.

- V. Local Government and Public Affairs Programs--Although Extension has long recognized and assisted with educational programs on the functions of finance and local government operations, recently the demands on local government officials and interested citizens have become more complex. As a result, Extension has increased its efforts in this field of educational assistance.

The objectives of Extension programs in taxation and local government are to assist local officials to (1) be aware of new opportunities, (2) evaluate administrative courses of action, (3) select and implement the course of action best suited to their situation, and (4) establish and maintain better communications and relationships among units of local government, agencies, and with their constituencies. For instance, a Vermont town worked out the kind of comprehensive plan it wanted and needed only after an Extension specialist brought encouragement, order and widespread citizen involvement into the planning procedure.

Over the last three-year period, more than 7,800 different units of local government have been assisted in implementing better financial and operational practices that have resulted in over \$1.5 billion in increased services to rural communities or in savings in operational costs to local governments.

During FY 1976, Extension increased its educational assistance to all levels of government on such issues as land use policy, school finance, energy policy and conservation, food prices, environmental quality, water supply and quality, and rural crime. County and area Extension agents are ideally located and have the confidence of local people to undertake educational programs that will help local decisionmakers in developing policies to resolve these issues.

Title V, Rural Development Act of 1972--Under Title V funding, land-grant universities in 50 states and Puerto Rico have provided assistance to more than 200 major community development projects. Organizational, technical, and research support and leadership skills training for community leaders and local government officials have been provided by Extension in solving problems as indicated below:

<u>Problem Area</u>	<u>No. of States Reporting Progress or Improvement</u>
Job creation & Income improvement	31
Improving employability of local residents	8
Adequate housing	15
Developing waste disposal, sewer & water systems	14
Improving health/medical services & facilities	16
Transportation services & facilities	12
Land & water use policy/planning	15
Recreation and Tourism	10
Other community services & facilities	6

The kinds of progress or improvements range widely for each of the problem areas. North Carolina affected savings of more than \$216,000 in 8 firms that were on the verge of closing due to energy cost increases. This education and research effort provided technical assistance in engineering, marketing and management to the firms in order to save more than 200 jobs that would have been lost with the firms' closings. An additional 18 small, local firms are also receiving assistance designed to enhance their competitive position.

Kansas is pursuing a promising project which will fuel a 1,200 cow-dairy operation by generating methane gas from animal wastes. If successful, it may have application in thousands of other livestock operations across the nation.

In isolated Cerro Gordo, Puerto Rico, 32 families have become involved in self-help housing projects, 62 families have upgraded their personal sanitation systems in an area of high incidence of disease from improper disposal of human wastes, and school buses now transport children to junior and senior high schools.

In Tennessee, the Citizens Council for the Title V project has helped local governments obtain funds needed for road construction and improvements, public parks, a housing development, and blood pressure testing centers. They have established a sorghum mill, a farmers market, and have expanded specialized "country ham" production in the project area.

In Oregon, Title V resulted in an upgrading of a local hospital which was losing its accreditation for Medicare and state government payments.

The bonding issue required to finance such construction passed by an 80% margin even though unemployment in the county exceeded 20% at that time.

California's Title V effort has provided training in production technology, marketing, business management, and community organizational skills for farmer-owned production and marketing cooperatives comprised largely of Spanish-speaking and Indian farmer-producers. The result is increased income and permanent economic opportunity for more than 800 Spanish-speaking families.

In Maine, more than 300 low-income and elderly families have received assistance in upgrading their housing through the use of Federal and local assistance programs. Many of these families were living in houses without sanitation facilities, running water, or adequate heating systems.

In Georgia, downtown revitalization efforts have enhanced the area's competitive position for new industries, provided new jobs for area residents and a new look for the towns serving them. The local citizens' committee says Southwest Georgia is "on the move again." According to these people, the important result is the difference in active involvement of local citizens in studying and resolving their problems and the emergence of "a whole new wave of leadership" in the project area.

HOME ECONOMICS

Extension Home Economics programs are directed to families and individuals at all levels of society to help them identify their needs, make decisions, and utilize resources to improve their quality of home and family living. Home Economics programs are extended to a wide variety of audiences through training volunteer leaders who assist Extension home economists and para-professionals. Many of the 700,000 volunteer leaders come from the Extension Homemakers organizations which have some 600,000 members in 35,000 different organized groups in 41 states and Puerto Rico. Virtually all of these homemakers live in rural areas with populations under 10,000. The scope of the home economics program includes food and nutrition; family resource management; housing, furnishings and equipment; family life, child, and human development; clothing and textiles; health and safety, as well as such related areas as consumer education and energy. Increased costs of living have focused programming efforts on assisting families to adjust to economic, social, and technological changes.

I. Food and Nutrition Education

One-third of all Extension home economics' time is devoted to food and nutrition education. Priority attention is given to young consumers, the elderly, and low-income families. States are helping families to improve their diets; apply safe food handling practices to family skills, needs, and resources; and increase food supplies through improved home production and preservation of food.

Nutrition programs for older citizens are being given special emphasis. Interagency cooperation is playing a significant role in this effort. Connecticut received a grant to develop, plan and implement a model nutrition education project in connection with the Title VII feeding program which resulted in training of 15 aides to provide geriatric nutrition at Title VII sites. 42,466 persons attended this project during the year and 240,000 copies of more than 45 publications were distributed.

II. Family Resource Management

Since 1973, Extension Home Economics programs have focused on helping families improve their financial and debt management. A national workshop, "Family Adjustment to Economic Change," was conducted in 1976 for 96 state specialists and home economics program leaders from 45 states and Puerto Rico. As a result, 60% of the states provided additional training for county Extension home economists who helped families improve spending and borrowing practices. Twelve states also trained 112,856 community leaders in money management and 36,328 leaders in debt management.

Through a pilot program conducted in Mississippi and South Carolina, materials and techniques in family financial consultation and computer programs designed to review family spending levels and debt positions have been shared with Cooperative Extension Services nationwide. Specifically Mississippi assisted 22,898 persons in group sessions and 69 families in individual financial consultation in a 2-year period. Approximately 3,000 persons in 15 South Carolina counties used the computer programs in FY 1976.

III. Clothing and Textiles

Consumers have become increasingly interested in improved buying skills, learning to make garments and household textile items, and how to care for clothing to increase its service life. Information and programs that assist families with recycling or remodeling of garments have received high priority nationally. Most states have intensified their efforts to reach and assist low-income families. Increased information to help consumers become better informed is a necessity.

In Texas, 18,000 youth and adults participated in its clothing recycling program this past year with an estimated saving of \$52,560.

IV. Housing and Energy Management (including furnishings and equipment)

Programs have focused on remodeling, home care and maintenance, and energy conservation in order to preserve present housing, reduce energy consumption, and relieve economic pressures of families.

Texas assisted approximately 46,000 individuals who received instructions on home improvements, remodeling, and repairs in 91 counties. Twelve such demonstrations saved \$43,278 and 2,776 families reported a savings of \$163,750 on home improvements. Response to a Mississippi six-month statewide program emphasis on housing has been outstanding and Arkansas reports that requests for assistance in this area are greater than can be scheduled.

Energy conservation as it relates to housing, use of household appliances, and family life styles continues to be emphasized in every state. Energy conservation slide sets, publications, etc., have been developed and distributed to all states. Extension is cooperating with industry and other Government agencies in this timely effort.

V. Family Living

Special program emphasis is being placed on strengthening family relationships, particularly in the areas of child care. For example, the Missouri Extension Service has reached over 250 families from a wide variety of socio-economic backgrounds in a Parent-Child Interaction Program instructing parents in specific ways to teach their preschool children selected skills. The project has been highly successful in stimulating parents to take an active part in the education of their children and in enhancing parent/child relationships. During the coming year Missouri plans to make these instructional materials available

to other State Extension Services and will expand the program to recruit and train volunteers to conduct Parent-Child Interaction Programs.

The five state North Central region cooperative TV project "Living Married" has been successfully used in many states and has stimulated the development of similar series in other states.

A Missouri Extension Service project has recruited 30 state penitentiary inmate volunteers to make vocal recordings and braille transcriptions of books and teaching materials for the benefit of blind, paralyzed, or otherwise disabled university students.

Extension is also increasing its program efforts with the aged. Ten states report innovative successful programs for the elderly such as Mississippi's Informal and Referral Services; South Carolina and Mississippi College Week for Senior Citizens that reached over 900 older Americans; Arkansas' Adopt Grandparent Program; Texas' Kids and Seniors Learning Life's Skills. North Carolina Extension Service co-sponsored a Senior Citizens Week at Camp and 1,497 people participated in the educational, crafts and cultural programs.

Expanded Food and Nutrition Education Program

Adult EFNEP

This program was implemented in FY 1969 to provide opportunity for the State Extension Services to expand food and nutrition education programs to the nation's 5.4 million poor and severely depressed families. (1970 census)

More than 1 million families have enrolled in this indepth program since 1969. Its objective is to improve their diets through knowledge of the essentials of nutrition, ability to prepare and serve meals, ability to select, buy and store food, and ability to manage resources. The program is carried out by paraprofessionals or nutrition aides under the direct supervision of Home Economists. An estimated 4,500 full-time man year equivalents are being provided by this resource group. As recognition of the capabilities of this resource group, the Congress directed the Extension Service to initiate pilot projects dealing with urban home gardening in our nation's six largest cities beginning in FY 1977.

Of the program families 78% have annual incomes of \$5,000 or less, 44% have completed the 8th grade or less and 62% come from minority groups.

The effectiveness of the program in changing food consumption practices can be measured in two ways. During a 2½ year period there was a 23% increase in the number of homemakers who have attained a minimum diet or at least one serving of food from among the four food groups (milk, meat, fruit and vegetables, bread and cereal).

The second measure of effectiveness is the number of families with a 2-2-4-4 optimum diet. Optimum diet is attained with 2 servings of milk, and 2 servings of meat, 4 servings of fruit and vegetables and 4 servings of bread and cereal. A summary of sample data on all initial food readings taken on program families who have entered the program since 1969 shows that 8.3% had a 2-2-4-4 diet. After two years this percentage changed to 23% and gradually increased through the six food recalls during the next 2½ years.

Youth EFNEP

Over 819,000 youth are currently participating in Extension's 4-H Expanded Food and Nutrition Education Program, primarily for low income city youth. More than half of these youth come from minority, ethnic groups. Participation in 4-H EFNEP has remained fairly stable over the past two or three years, even though there has been no increase in funding.

As a result of this program, youth are learning good nutrition practices, how to improve their diets, and how to best utilize the food available to them. In addition to improved health, involvement in this program has contributed to the personal development of disadvantaged youth.

Volunteers and program aides, many of them from the low income, minority groups, have been the key to much of the success of this program. Last year, 54,416 volunteers worked with youth in 4-H EFNEP.

4-H - YOUTH DEVELOPMENT

4-H is the youth program of the Cooperative Extension Service. Through informal, practical, learn-by-doing educational programs, 4-H helps youth establish real-life goals and become competent, productive citizens. Cooperative Extension's 4-H youth programs are based on a unique partnership of government, university, volunteers and private sector. Parent cooperation and participation in 4-H programs are given high priority.

Much of the success of the 4-H program can be attributed to the invaluable assistance provided by volunteers--both adults and teens. Last year, 559,578 volunteer leaders participated in 4-H. Support for 4-H by the private sector is one of the major forces in the continuing expansion and further development of 4-H nationwide. In addition, there is substantial assistance to 4-H by resource people, business, industry, agricultural and civic groups. Senior citizens are becoming a more integral part of 4-H programs, both as volunteers and as a service audience for 4-H teens.

In preparation for our Nation's third century, a 4-H document entitled "4-H in Century III" has been developed by a Task Force of the Extension Committee on Organization and Policy (ECOP), including representatives of National and State Extension Services, private sector, and others. This document outlines 4-H's program needs and goals for the coming century which call for concentration on the following program concerns.

- Economics, Jobs and Careers
- Animal, Plant and Soil Sciences
- Environment and Natural Resources
- Mechanical Sciences and Energy
- Home and Family Resources
- Health and Safety
- Leadership, Community Development and Citizenship Education
- Leisure Education, Creative and Performing Arts, and Communications

To carry out effective programs in these areas will require volunteer leader expansion, increased teen involvement, effective staff development and training programs, expanded use of TV and other educational program mediums in 4-H, and a more effective system for evaluation, reporting, and accountability.

According to the most recent national summary available (FY 75), over 5½ million youth are currently participating in 4-H youth programs. Approximately

25 percent of the youth involved in 4-H come from minority groups.

Growth in 4-H over the past five years is shown below:

	1971	1975
Enrollment in 4-H Clubs	2,119,038	2,293,851
Enrollment in 4-H Special Interest Groups	370,008	1,739,817
Participation in 4-H Expanded Food-Nutrition Education Programs, primarily for low income city youth	560,238	819,369
Participation in 4-H Instructional TV	557,347	724,679

Although there continues to be considerable expansion in urban areas, the numbers of farm youth in 4-H Clubs and 4-H special interest groups continues to increase.

Youth from Farms	835,363	936,557
Towns under 10,000 & open Country	1,060,330	1,617,566
Towns and Cities, 10,000-50,000	300,780	675,267
Suburbs of Cities 50,000 & over	150,281	331,893
Central Cities, 50,000 & over	142,292	472,385

Youth in 4-H Clubs and 4-H special interest groups enrolled in over 8½ million 4-H education projects--an average of 2.1 projects per member. Enrollments in the various projects for the 5 year period are as follows:

	1971	1975
Animals and Poultry	1,078,897	1,381,545
Plant Science and Crops	420,756	718,584
Energy, Machines & Equipment, Engineering	596,532	1,052,661
Ecology, Natural Resources	495,498	621,546
Economics, Jobs and Careers	96,911	149,186
Community Development, Service, Government	630,085	758,593
Leisure Education & Cultural Arts	537,936	784,467
Cultural Understanding & Exchanges	34,648	34,540
Health, Personal Development, Relationships	679,380	683,215
Individual & Family Resources	1,767,170	1,777,273
Communication Arts and Science	271,122	315,901
Introductory, General, Miscellaneous	292,385	379,692

Examples of exceptional 4-H projects and achievements are as follows:

- A 4-H T.V. series on increasing our youth's awareness on food-fiber production is in the development stage. This 4-H T.V. series will be aimed at educating the 9-12 year olds on the production, processing and distribution of food and fiber in America. Full program production and distribution is expected sometime this year.
- Thirty-two counties were involved in an environmental improvement program for Mississippi, conducted by the Extension Service in cooperation with the Mississippi Bicentennial Commission. Over 49,000 youth received information and suggestions on ways to make lasting improvements in their environment. In addition, 13 counties in Mississippi reported conservation clinics involving 1,191 youth. Two counties reported Tree Planting Week that involved 750 youth and a solid waste disposal program involved 700 youth in one county.

- In Wisconsin, 23 mentally retarded children are working with volunteer leaders in foods, woodworking, crafts, knitting, small engines and some animal projects in one county. In another county, 60 4-H members are working with physically and mentally handicapped children in dog, rabbits, home furnishings and gardening 4-H projects.
- The numbers of youth benefiting from 4-H programs in urban areas showed significant growth again this past year. In FY 75, 4-H urban enrollments increased 265,000 over the previous year. A total of 675,267 4-H members came from towns and cities 10,000-50,000; 331,893 from suburbs of cities over 50,000 and 472,385 from central cities of over 50,000. This does not include youth reached through 4-H expanded nutrition education programs for low income city youth nor the youth in metropolitan centers enrolled in instructional 4-H T.V.

1890 INSTITUTIONS AND TUSKEGEE INSTITUTE

Through the 1890 Land-Grant Institutions and Tuskegee Institute, extension education programs in agriculture and natural resources, home economics, 4-H and youth development and community resource development are being expanded in 16 Southern and border States to serve previously unreached limited resource clientele. Programs are available to all clientele groups although special efforts are being made to reach the 6 million limited resource rural residents of these States as identified by the 1970 census. Program emphasis in FY 1976 consisted of 26% staff years expended in 4-H and youth type projects, 40.9% in home economics/family living activities, 21.2% in agriculture and natural resources, and 10.9% in community resource development projects.

The 1890 Institutions and Tuskegee Institute continue their joint efforts in program planning and program implementation. Selected examples of program accomplishments are as follows:

The Family Development and Management Assistance Program in Kentucky was carried out in five different areas of the State, providing a range of educational assistance to more than 25,000 limited resource families in 30 counties. A mobile educational unit containing a kitchen, audio-visual equipment and meeting room space is used in this program to further expand the benefits of the program to commonwealth residents in 78 counties, some of them in very remote areas.

Kentucky also offered a gardening program to residents in both urban and rural communities to analyze their sites through results from the 30,000 soil samples taken and providing information to gardeners on the proper use of fertilizer, insecticides and the like.

Ninety-three county Extension offices in Tennessee report that program assisted families were able to reduce their food costs by approximately \$300 per family. Tennessee carries out a number of highly successful projects including a Statewide Ministers' Institute which was conducted in the fall of 1975 as part of the community resource development program. This educational event, held in nine different locations in the State, was designed to provide a planning mechanism for rural ministers, to help them more fully involve themselves in efforts to develop their communities. One hundred and seventy eight ministers, 190 church representatives and 108 other influential community leaders took part in this institute, that was carried out by three community resource development specialists and program staff from other State and federal agencies.

During most of FY 1976, the home economics staff at Langston University in Oklahoma conducted a series of home improvement workshops in Davenport, Oklahoma and in eleven other counties of the State. An area program agent, assisted sometimes by program assistants, conducted upholstery classes for some 386 homemakers. Homemakers were helped to reupholster various items of furniture including six footstools, 24 dining room chairs, and 8 bedroom chairs. These classes were very popular with the limited resource families served.

D. C. COOPERATIVE EXTENSION SERVICE

Primary program objective is to provide informal extension education to families, youth, and neighborhood communities in the District of Columbia especially for the limited resource groups. Extension programs are currently being carried out through the Federal City College and the Washington Technical Institute. Approximately 33 extension professionals, 29 paraprofessionals and aides and 8 supporting staff were employed by these colleges to carry out these programs in FY 1976.

Program activities include Extension work in the areas of 4-H and youth development, community resource development, family living, food and nutrition, consumer education, home horticulture and natural resources. Instruction is provided for citizens in all parts of the city and with all racial and ethnic groups living in the District, including work at the Chinese center and work with members of the Spanish speaking community in Washington, D. C.

Significant improvement on the overall conduct of extension work and the use of resources is expected with the establishment of the University of the District of Columbia effective in October, 1977. Public Law 92-471 enacted on October 26, 1974 authorized the union of the Federal City College, the Washington Technical Institute and the D. C. Teachers College into the University of the District of Columbia. This merger is expected to result in closer program coordination between these colleges necessary in carrying out effective and responsive extension education work in the District.

NATIONAL AGRICULTURAL LIBRARY

Purpose Statement

The Organic Act of 1862, establishing the Department of Agriculture, set forth a basic mission "to acquire and to diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of the word," and placed upon the Secretary the responsibility to "procure and preserve all information concerning agriculture which he can obtain by means of books. . ." The Library was established in the same year by the first Commissioner of Agriculture.

Designated the National Agricultural Library in 1962, the Library works closely with the Library of Congress and the National Library of Medicine to fulfill the functions of a national library for the United States.

The National Agricultural Library provides access to the world's agricultural literature. Both current and historical information is collected and organized for effective utilization by a wide range of users. Library services include reference assistance, preparation of bibliographic files, and loan or photoduplication of library materials.

The library services of the National Agricultural Library are carried out by 179 employees who are located in the main library at Beltsville, Maryland, and by 17 employees in a branch library in Washington, D. C., which includes the new law collection and social science materials.

In addition, several agencies of the Department maintain and finance their own libraries. These libraries are situated at field locations where concentration of work and research staff warrants on-site library services. The Director of the National Agricultural Library prescribes library policy, standards, and procedure for these field library services and exercises such controls as are needed to coordinate services in the Department.

Available Funds and Man-Years
1976 and Estimated 1977 and 1978

Item	Actual 1976		Estimated Available, 1977		Budget Estimate 1978	
	: Amount	: Man- : Years	: Amount	: Man- : Years	: Amount	: Man- : Years
National Agricultural Library ...	\$5,539,000:	198	\$6,193,000:	210	\$6,880,000:	210
<u>Obligations under other USDA</u>	:	:	:	:	:	:
<u>appropriations:</u>	:	:	:	:	:	:
Agricultural Research Service:	:	:	:	:	:	:
Recatalog Arboretum Library :	:	:	:	:	:	:
Collection	6,000:	- -	5,000:	- -	- -	- -
Services provided for the util-	:	:	:	:	:	:
ization of computer space ...:	81,200:	- -	96,000:	- -	102,000:	- -
Food and Nutrition Service:	:	:	:	:	:	:
Information and Educational :	:	:	:	:	:	:
Materials Center	265,405:	5	310,300:	6	317,000:	6
Forest Service:	:	:	:	:	:	:
Library services provided for :	:	:	:	:	:	:
the gypsy moth project	- -	- -	19,000:	2	- -	- -
Agricultural Marketing Service:	:	:	:	:	:	:
Services provided for the :	:	:	:	:	:	:
utilization of office space ..:	9,100:	- -	11,000:	- -	12,000:	- -
Economic Research Service:	:	:	:	:	:	:
Services to further the :	:	:	:	:	:	:
Sorghum Networking Activities:	2,962:	- -	1,200:	- -	- -	- -
Office of Audit:	:	:	:	:	:	:
Renovation to provide facili-	:	:	:	:	:	:
ties for the storage of reports	:	:	:	:	:	:
generated from "RAPID" system:	- -	- -	2,325:	- -	- -	- -
Working Capital Fund:	:	:	:	:	:	:
For microfilm and photoprint :	:	:	:	:	:	:
reproduction and magnetic	:	:	:	:	:	:
tapes	21,334:	1	34,200:	1	34,200:	1
Total, Other USDA Appropriations :	386,001:	6	479,025:	9	465,200:	7
Total, Agricultural Appropriation:	:	:	:	:	:	:
Bill	5,925,001:	204	6,672,025:	219	7,345,200:	217
Other Federal Funds	- -	- -	41,455:	- -	- -	- -
Total, National Agricultural	:	:	:	:	:	:
Library	\$5,925,001:	204	\$6,713,480:	219	\$7,345,200:	217

	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
End-of-Year Employment:			
Permanent Full-time	169	175	179
Other	27	20	20
TOTAL	196	195	199

(a) NATIONAL AGRICULTURAL LIBRARY

Appropriation Act, 1977	\$6,026,000
Budget Estimate, 1978	<u>6,880,000</u>
Increase in Appropriation	<u>\$ +854,000</u>

Adjustments in 1977:

Appropriation Act, 1977	\$6,026,000	
1977 Supplemental Appropriation for pay costs	<u>167,000</u>	
Adjusted base for 1978		6,193,000
Budget estimate, 1978		<u>6,880,000</u>
Increase over adjusted 1977		<u>\$ +687,000</u>

SUMMARY OF INCREASES
(on basis of adjusted appropriation)

	<u>1977</u>	<u>Increase</u>	<u>1978 Estimate</u>
Acquisition of agricultural books and journals	\$1,676,000	\$+590,000	\$2,266,000
GSA space rental costs	159,000	+74,000	233,000
Annualization of the pay cost increase effective in FY 1976	167,000	+3,000	170,000
Working Capital Fund Services	(253,000)	+20,000	20,000
All other	<u>4,191,000</u>	<u>- -</u>	<u>4,191,000</u>
	<u>\$6,193,000</u>	<u>\$+687,000</u>	<u>\$6,880,000</u>

PROJECT STATEMENT
(on basis of adjusted appropriation)

Project	:- 1976	: 1977 (Estimated):	: Increase	: 1978 (Estimated)
1. Agricultural Library services for research and education:	\$5,380,443	\$6,193,000	\$+687,000(1)	\$6,880,000
Unobligated balance	158,557	- -	- -	- -
Total available or estimate	<u>5,539,000</u>	<u>6,193,000</u>	<u>+687,000</u>	<u>6,880,000</u>
Proposed supplemental for pay increase costs	- -	-167,000		
Total, appropriation	<u>\$5,539,000</u>	<u>\$6,026,000</u>		

EXPLANATION OF PROGRAM

The National Agricultural Library has several basic functions: To identify and acquire relevant publications, to disseminate information about or from them, and to deliver them to our users. The research and educational services of the Library are directed toward improving access to sources of information for all scientists, researchers, administrators and other workers in agricultural fields in both government and private sectors. To meet these needs, NAL must provide current awareness services about the worldwide agricultural literature, and make these publications available to users. The on-line interactive bibliographic search and retrieval services operated by the Library are directed towards this purpose. The availability of these on-line bibliographic data bases has generated an increased demand for all types of library services.

Acquisition of agricultural materials continues to be a major activity in carrying out the mission of the Library. Other primary activities for fiscal year 1977 are as follows:

<u>Types of Activities</u>	<u>Estimated Productivity</u>
Addition of serial issues	230,000
Titles cataloged	14,000
Articles indexed	134,000
Loans and photocopies provided	228,000
Reference inquiries answered	38,000
Information packages prepared	850

Serial publications are recognized as a valuable source of information on current and recently completed research. Heavy emphasis is placed, therefore, on the development of a comprehensive current serial collection.

A major objective of the Library's program in bibliographic control is to organize and announce agricultural publications so that they can be used. The Library catalogs books and journals newly acquired for the collection and indexes journal articles, conference proceedings, and reports carefully selected from the world's publishing output for their meaningful information on agricultural research. Bibliographic records of these publications are added to the computerized AGRICOLA (Agricultural On-Line Access) data base. From this data base, information is disseminated in a variety of ways. It is accessible through commercial on-line services and in printed products, notably the commercially published Bibliography of Agriculture, a month index to agricultural literature, and the National Agricultural Library Catalog, a monthly record of books and journal titles recently added to the collection.

Resources of the NAL collection are made available through direct loan, inter-library loan of books, and photocopy of documents which are primarily journal articles. Literature requests of USDA field employees in several areas of the U.S. are processed with the cooperation of the land-grant university libraries. The resources of these libraries are used first by field employees, with NAL serving as back-up.

Further exploitation of collection resources is developed through reference inquiries and information packages. Reference inquiries are subject matter questions requiring from 5 minutes to 4 hours of professional effort to research and answer. Information packages are prepared by NAL in response to requests for technical information. These information packages include a bibliography, a collection of documents, a literature survey, or advice and assistance which require more than four hours to prepare.

In addition to the above, NAL must also provide for preservation of the collection. Preservation involves the microfilming or restoration of important research materials that are deteriorating because of poor quality paper, unbound condition, or age. Materials selected for preservation include USDA documents, unbound serial issues, newspapers, and rare books.

JUSTIFICATION OF INCREASES

(1) An increase of \$687,000 for National Agricultural Library services for research and education consisting of:

- (a) An increase of \$3,000 for annualization of pay increases effective in FY 1977.
- (b) An increase of \$74,000 for space rental costs pursuant to P.L. 92-313.
- (c) An increase of \$20,000 for Working Capital Fund Services.
- (d) A one-time increase of \$590,000 for acquisition of agricultural periodicals (\$1,676,000 available in 1977).

Need for Increase: NAL holds a national responsibility for acquiring and making readily available the world's agricultural literature. The bulk of library service requests from USDA scientists throughout the country concerns articles within journal publications. To the agricultural community NAL annually makes available more than 220,000 journal issues, indexes more than 130,000 articles, and distributes more than 140,000 documents on loan. The operation of these and other library services is highly dependent upon the efficient and effective workings of a subscription renewal program.

In the publications trade, subscriptions placed in August or September for the forthcoming calendar year obtain more efficient service from suppliers. This lead time permits systematic processing of the orders and assures service from the beginning of the subscription period. Because of the change in the fiscal year to an October-through-September period, the current funding program will not allow the Library to renew subscriptions until October of the fiscal year. This would compound publication receipt problems and require additional follow-up activity to assure that subscriptions which have not been received are actually being started. The delay could also cause some subscriptions to be cancelled and others to arrive late.

In order to reschedule the funds so as to permit the renewal of journal subscriptions in the months desired, it will be necessary to place these orders twice in one fiscal year (once in October for calendar year 1978 subscriptions and again in the following August or September for calendar year 1979). Thereafter, the Library will be able to place its renewal orders in the months which will be most effective. NAL is asking for a one-time appropriation of \$590,000 to permit this adjustment.

Plan of Work: The requested increase would enable the Library to place journal renewal subscriptions in the most effective months of the year, ensuring the most efficient distribution of scientific knowledge to the Department employees and the agricultural community at large.

STATUS OF PROGRAM

The National Agricultural Library collects agricultural information world-wide and provides it to researchers within the Department of Agriculture and to scientists, students, and other individuals in agricultural colleges and universities, industry, and rural America.

Current Activities: The Library is responsible for all library-related resources and services in the Department of Agriculture and administering its unique collection of books, journals and other information materials in such a way as to sustain and expand the nation's wealth of knowledge in the agricultural sciences.

The Library acts as a focal point for the Department in the development of cooperative efforts in the library and related information areas with other Federal agencies and with educational institutions in each state.

The Library continually seeks to meet the growing information needs of a wide variety of users through the application of new technology and the development of an outstanding collection of library materials.

Selected Examples of Recent Progress: Recent accomplishments are cited below:

NAL Bibliographic Data Bases:

The bibliographic data bases of the National Agricultural Library (NAL) in machine readable form were renamed AGRICOLA in July 1976. AGRICOLA (AGRICultural OnLine Access) is an umbrella for a family of data bases providing for the information needs of NAL clientele. CAIN (Cataloging-INDEXing) is the bibliographic record of journal articles, new monographic, and new serial titles received at NAL and constitutes the bulk of the AGRICOLA file. Two other data bases have been added to AGRICOLA. The Food and Nutrition Information and Educational Materials Center (FNIC) file is a machine readable cumulation of citations to journal articles, monographs, and audio-visual materials in applied human nutrition, food service sanitation and safety, volume food storage and preparation, and their administrative management. The Agricultural Economics (AgEcon) data base contains the bibliographic citations published in the American Bibliography of Agricultural Economics. AGRICOLA is online with Lockheed Information Services, Palo Alto, CA and Systems Development Corporation, Santa Monica, CA. Additional data bases will be added to AGRICOLA in the future. For the benefit of NAL clientele, access has been gained to the computer files at Oak Ridge National Laboratory through negotiation with the Energy Research and Development Administration and to Subject Content Oriented Retriever for Processing Information Online (SCORPIO) through the Library of Congress. These files provide information of value in the areas of energy, agriculture, and legislation.

LIBRARY OPERATIONS:

The availability of online bibliographic data bases has generated among library patrons an increased demand for bibliographic services. The impact of these demands has substantially increased the demands made upon the Lending Division for the loan of photocopy of documents. In addition, the National Agricultural Library is implementing computerized services to U.S. Department of Agriculture field units which are without knowledge of, or access to them. Coverage is being extended to presently unaccessed bibliographic machine files such as those of the Energy and Research Development Agency and the Environmental Protection Agency.

The Regional Document Delivery Centers established to provide information and library materials to USDA researchers in the field were expanded in 1976 to include the North Central and Mountain Regions of the United States. The system is based upon and implemented through cooperation with the land-grant university libraries.

COOPERATIVE PROJECTS:

Funds from the Agency for International Development are being utilized to provide library and information services to land-grant sorghum researchers and graduate students on four land-grant campuses: Nebraska, Puerto Rico, Purdue, and Texas.

The National Agricultural Library and Cornell University Libraries have signed a cooperative agreement for the addition of bibliographic records of agricultural serials and journals to the CONSER (Conversion of Serials) data base. Both libraries hold extensive collections of agricultural serials and share many titles in common. This cooperative effort is expected to improve access to an important body of literature.

Another cooperative project involves the Ohio College Library Center (OCLC). The OCLC system is used for pre-order searching by the Acquisitions Division to avoid duplication and to verify bibliographic information. NAL began input of original cataloging data for monographs in 1974. Approximately 1,000 cataloging records a month are processed through OCLC. NAL has begun a new project to input data for use with the OCLC serial check-in component. As designed, the Serial Control Subsystem of OCLC will provide an online inventory control of serial publications.

GIFTS:

Historical records for 1964-70 relating to the activities of the American Agricultural Editors Association were deposited in the Library by Earl W. McMunn, Chairman of the Association's History Committee. The Archives of the Graduate School, USDA were transferred to NAL in the Summer of 1976.

PUBLICATIONS:

NAL issued a number of bibliographic publications based upon its own collections: The Prince Family Manuscript Collection (Library List 101) a register of papers of the Prince Family, American Nurserymen from the turn of the 19th century to the Civil War; Serials Currently Received by the National Agricultural Library 1975, a Keyword Index is a list of approximately 19,000 serials which assists administrators and scientists of the U.S. Department of Agriculture and other agriculturally related communities in accomplishing immediate and long-range program of objectives; Dairy Technology and Production, a list of Serials (Library List 100) covers subjects dealing with dairy livestock production and dairy food technology. NAL also resumed publication of an annual report.

BICENTENNIAL PROJECTS:

The Associates NAL, Inc. sponsored a symposium on Heritage of Agriculture in Maryland, 1776-1976 on July 30, 1976. The papers presented at the symposium were published in the October 1976 issue of The Associates NAL Today, a quarterly journal. The proceedings of the 1975 symposium "Agricultural Literature: Proud Heritage - Future Promise" were published in 1976 by the Associates NAL, Inc. and the Graduate School, U.S. Department of Agriculture.

Obligations and Man-years: The following is a geographic breakdown of obligations and man-years by location:

	1976		1977		1978	
	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>	<u>Amount</u>	<u>Man-Years</u>
Washington, DC	\$569,292	17	\$547,200	18	\$621,200	18
Beltsville, MD	<u>4,811,151</u>	<u>181</u>	<u>5,687,255</u>	<u>192</u>	<u>6,258,800</u>	<u>192</u>
Total, National Agricultural Library ...	\$5,380,443	198	\$6,234,455	210	\$6,880,000	210

(b) Library Facilities

PROJECT STATEMENT

The following statement reflects estimated obligations on the basis of available funds:

Project	:	1976	:	1977 (Estimated)	:	Increase or Decrease	:	1978 (Estimated)
1. Plan, construct and partially furnish and equip facilities:	:		:		:		:	
(obligations)	:	- -	:	\$41,455	:	- -	:	- -
Unobligated balance available, start of year	:	\$-41,455	:	-41,455	:	- -	:	- -
Unobligated balance available, end of year	:	41,455	:	- -	:	- -	:	- -
Total available or estimate	:	- -	:	- -	:	- -	:	- -

Funds for the preparation of plans, specifications and drawings for new facilities were appropriated in 1964.

Funds were appropriated in fiscal year 1966 for construction of the new library at Beltsville, Maryland. The construction contract was awarded in November 1966. The cornerstone of the building was laid on September 28, 1967. During fiscal year 1969, the building was accepted by GSA as "substantially completed" and the Library staff and collection were transferred to the new building between May 15, 1969, and June 15, 1969. The new building was accepted by GSA as "completed" on October 7, 1971.

The balance brought forward into 1977 will be used for the sealing of the windows and of the brick on the exterior of the building, which was not done at the time the building was constructed.

ECONOMIC MANAGEMENT SUPPORT CENTER

Purpose Statement

The Economic Management Support Center (EMSC) was established by the Secretary of Agriculture on January 9, 1974, under the authority of the Reorganization Plan No. 2 of 1953. It provides consolidated and centralized management support services to the Agricultural Economics agencies of the Department. The principal objectives are to improve the timeliness and effectiveness of program operations of the agencies served through improved utilization of management manpower and techniques, increased specialization of professional skills, and more extensive use of timesaving equipment.

The consolidated management support services include budget, financial management, personnel and related programs, administrative services and general management assistance. These services are primarily financed by direct appropriation and reimbursements. To the extent that the agencies served perform work on a reimbursable basis, EMSC is also reimbursed for the related support services required.

These centralized services are provided to the Statistical Reporting Service, Economic Research Service, Farmer Cooperative Service, and the Economic Management Support Center by a staff of approximately 134 located entirely in Washington, D.C. As of October 31, 1976 the staff had 140 employees, of which 135 were permanent full-time. The four agencies serviced are headquartered in Washington, D.C. and have 79 field offices located in 46 states.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

	Actual 1976	Man- Years	Estimated Available, 1977	Man- Years	Budget Estimate 1978	Man- Years
	Amount		Amount		Amount	
Economic Management						
Support Center	\$2,802,000	130	\$2,923,000	124	\$3,006,000	124
<u>Obligations under other</u>						
<u>USDA appropriations:</u>						
Special economic studies						
performed by the Economic						
Research Service for other:						
agencies on a reimbursable:						
basis	53,106	2	53,500	2	53,500	2
Special crop and livestock						
studies performed by the						
Statistical Reporting						
Service for other agencies:						
on a reimbursable basis...	143,640	7	160,600	7	160,600	7
Miscellaneous reimbursable						
services	3,510	- -	11,100	- -	11,100	- -
Total, Other USDA Appro-						
priations,	200,256	9	225,200	9	225,200	9
Total, Agriculture						
Appropriations	3,002,256	139	3,148,200	133	3,231,200	133
<u>Other Federal Funds</u>	<u>207,600</u>	<u>7</u>	<u>206,100</u>	<u>7</u>	<u>206,100</u>	<u>7</u>
Total, Economic Management						
Support Center	3,209,856	146	3,354,300	140	3,437,300	140

End-of-Year Employment:	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
Permanent full-time...	135	134	134
Other	8	10	10
Total	<u>143</u>	<u>144</u>	<u>144</u>

Economic Management Support Center

Appropriation Act, 1977.....	\$2,802,000
Budget Estimate, 1978.....	<u>3,006,000</u>
Increase in Appropriation.....	<u>+204,000</u>

Adjustments in 1977:

Appropriation Act, 1977.....	\$2,802,000	
1977 Supplemental Appropriation for		
pay costs.....	<u>+121,000</u>	
Adjusted base for 1978.....		2,923,000
Budget estimate, 1978.....		<u>3,006,000</u>
Increase over adjusted 1977.....		<u>+83,000</u>

SUMMARY OF INCREASES AND DECREASES
(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increase</u>	<u>1978</u> <u>Estimate</u>
Management support services:			
For inflationary costs and			
progressive within-grade			
promotions.....	\$2,612,000	+\$30,000	\$2,642,000
GSA space rental costs.....	190,000	+4,000	194,000
Annualization of the pay cost			
increase effective in FY 1977.....	121,000	+7,000	128,000
Working Capital Fund Costs.....	(295,000)	+42,000	42,000
Total available.....	<u>2,923,000</u>	<u>+83,000</u>	<u>3,006,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1976	1977 :(estimated):	Increase	1978 :(estimated)
1. Management support services..:	\$2,770,103	\$2,923,000	+\$152,897	\$3,006,000
Unobligated balance.....:	31,897	- -	- -	- -
Total available or				
estimate.....	2,802,000	2,923,000	+121,000	3,006,000
Transfer to AMS.....	+36,000	- -	- -	- -
Proposed Supplemental				
for pay increase costs.....	- -	-121,000	- -	- -
Total, appropriation	<u>2,838,000</u>	<u>2,802,000</u>	<u>-36,000</u>	<u>-36,000</u>

EXPLANATION OF PROGRAM

The Economic Management Support Center provides consolidated, centralized management support services to the Agricultural Economic agencies of the Department, comprising the Statistical Reporting Service, Economic Research Service, Farmer Cooperative Service, and the Economic Management Support Center. As the three program agencies are relatively small and share similar operating goals, it is more efficient to combine support services into one small, central management organization than to fragment the services among the agencies. Consolidation encourages increased specialization of professional skills, improved use of manpower and management techniques, and more extensive use of timesaving equipment. Services provided on this centralized basis include budget, financial management, personnel and related programs, administrative services, and general management assistance.

Management support services are provided to agency staffs both in Washington, D.C., and in 79 field locations throughout the country. Total agency man-years serviced are as follows:

	<u>1976 Actual</u>	<u>1977 Estimate</u>	<u>1978 Estimate</u>
Agency man-years	3,321	3,460	3,504

JUSTIFICATION OF INCREASES

- (1) An increase of \$83,000 for management support services consisting of:
 - (a) An increase of \$7,000 for annualization of the pay increases effective in FY 1977.
 - (b) An increase of \$42,000 for Working Capital Fund Costs.
 - (c) An increase of \$4,000 for space rental costs pursuant to P.L. 92-313.
 - (d) An increase of \$30,000 for inflationary costs and progressive within-grade promotions.

Need for Increase. The Economic Management Support Center strives to provide responsive, effective management services to the Agricultural Economic agencies while simultaneously economizing on the cost of these services. Every effort is made to absorb increases in Agency operating costs. Nevertheless, in recent years these increased costs have compounded to a point where further absorption would result in a deterioration of program quality.

The higher cost of employee health benefits effective January 4, 1976, has increased the EMSC share of health premiums by \$6,000 a year. The Agency is required to meet the higher health costs under P.L. 93-246 and cannot absorb an annual increase of this size.

An increase of \$24,000 is requested for the progressive within-grade promotion of qualified personnel. In past years, the Economic Management Support Center has relied on a rather high turnover rate and the selective filling of vacancies at the entrance grade level to slow the upward trend in personnel costs. However, in fiscal year 1976 the Agency experienced its lowest turnover in personnel since 1971. This trend is in part a result of National economic conditions and in part a result of the relative youth of EMSC's middle-to-upper grade employees. With the lower turnover trend anticipated to continue, EMSC must budget for within-grade step increases which normally would be absorbed through turnover. Over a period of years, within-grade promotions compound, requiring an increase in appropriated funds.

Plan of Work. EMSC absorbs to the greatest extent possible a portion of the higher personnel and benefit costs. Further absorption would necessitate a cut in employment and a related decline in the quality and effectiveness of management support services provided to the Agricultural Economic agencies.

STATUS OF PROGRAM

The Economic Management Support Center (EMSC) was established on January 9, 1974, to provide consolidated management services to the Agricultural Economics agencies of the Department. These include the Statistical Reporting Service, Economic Research Service, Farmer Cooperative Service, and Economic Management Support Center. The creation of this one small agency as a central management organization represents a more practical, efficient alternative to the fragmentation of these services among the three program agencies. Consolidation permits support services to be provided with less expense and a higher concentration of expertise than would be possible under a multiple management arrangement.

The types of services provided by the Economic Management Support Center include the planning, development, and overall direction of management programs; budget development; personnel management and organizational analysis; procurement and property management; records and space management; communications; and financial management and review functions.

To play a positive role in the management support of the serviced agencies requires an adaptable management style to accommodate the variety of program activities and diversity of geographical and organizational structure. These program activities—including statistical research and service, crop and livestock estimating, economic analysis and research, and research and technical assistance for agricultural cooperatives—are carried out by serviced agency staffs in Washington, D.C., and in 79 field locations throughout the country. It is the responsibility of EMSC to expedite the Agricultural Economic programs by designing internal systems appropriate to each agency for financial, personnel, property, and records management; providing professional management advice to agency personnel; and relieving agency personnel of as much of the administrative detail as possible, recognizing that final management responsibility rests with the program officials of the agencies served.

The Economic Management Support Center is organized into three operating divisions:

1. Administrative Services Division - which is responsible for procurement, property management, and record system services. These include purchasing; contracts and agreements; property and space management; paperwork analysis; records disposition; directives issuance; forms and reports analysis; word processing; microfilming; facsimile transmission; and mail and mailing list services.
2. Budget and Finance Division - which is responsible for budgetary and financial management services. These include formulation, presentation and execution of budgets; legislative services; financial management and analysis; development of internal procedures and financial systems; and advisory services on fiscal and accounting matters.
3. Personnel Division - which is responsible for personnel management services. These include employee recruitment, classification, placement, and training; organization and position management; employee development and relations; and employee security and related matters.

Selected Examples of Recent Progress:

In fiscal year 1977, the Economic Management Support Center anticipates the following major accomplishments:

1. Work Management System. A flexible, manually-operated Productivity Measurement System and a Management Objective System have been put into operation in fiscal year 1977. The Productivity Measurement System provides information to management on the amount of employee time, rates of production, and productivity indices for identified units of output throughout the agency. The Management Objective System is a process for planning, monitoring, and evaluating progress on major management initiatives.
2. Lease Versus Purchase Study. An in-depth study of information-processing equipment has been conducted to weigh the relative merits of leasing or purchase. Included in the study were analyses of teleprocessing, copier, data batch terminal, portable data terminal, word processing, ADP keypunch/verifying, and ADP card-sorting equipment. The survey revealed that, in spite of rapid technological change, purchase remains the more advantageous alternative to the Government due to the constant changes in leasing agreements. The close survey of this equipment and leasing arrangements has been continued to keep the serviced agencies informed of the relative economies of leasing or purchase.
3. Performance Evaluation Follow-up. A program has been implemented in EMSC and its serviced agencies for (1) identification of employees whose performance has been evaluated below or substantially above the normally expected level of competence, and (2) follow-up with the supervisors of employees to assist them in properly resolving problems or granting deserved awards. The quality of the work force is improved by earlier identification of the causes of deficient performance and implementation of a specific plan of action to either correct the deficiencies through better placement, training, and/or counseling, or to take appropriate adverse action. Employee morale and motivation is also improved by assuring that high quality performance is formally recognized and rewarded.
4. Computerization of Personnel Computations. Computer programs have been developed to replace manual calculations of retirement annuity estimates, service computation dates, and severance pay for the Agricultural Economic personnel. Computerization has eliminated arithmetical errors in these very involved computations, reduced processing time in most cases, and improved employee satisfaction with retirement counseling.

All obligations and man-years of the Economic Management Support Center are in the District of Columbia as follows:

<u>Fiscal Year</u>	<u>Obligations</u>	<u>Man-Years</u>
1976	\$3,177,959	146
1977	3,354,000	140
1978	3,437,000	140

STATISTICAL REPORTING SERVICE

Purpose Statement

The Statistical Reporting Service was established by Secretary's Memorandum No. 1446, Supplement 1, of April 3, 1961 under Reorganization Plan No. 2 of 1953 and other authorities. The Service was created to give coordinated leadership to the statistical reporting research and service programs of the Department. The primary responsibilities of this Service are the National and State crop and livestock estimates and coordination and improvement of the Department's statistical program requirements. Service programs are organized in the following major areas:

1. Crop and livestock estimates. This includes estimates of production, supply, price, and other aspects of the agricultural economy; conduct of enumerative and objective measurement surveys; preparation and issuance of the official National and State estimates and reports of the Department relating to acreages, types and production of farm crops, number of livestock on farms, livestock products, stocks of agricultural commodities, value and utilization of farm products, prices received and paid by farmers, and other subjects as required.
2. Statistical research and service. This includes review, clearance, coordination, and improvement of statistics in the Department; research on and development of improved statistical techniques used in gathering and evaluating statistical data, data processing activities, with related systems analysis and research, programming and processing of data.
3. Work Performed for Others. Services are performed for other Federal and State agencies on a reimbursable or advance payment basis. These services consist primarily of conducting surveys and performing related statistical data collection activities. They also include participation in the Agency for International Development foreign visitor training program, technical consultation and support and technical assistance programs abroad under participating agency service agreements.

The Statistical Reporting Service maintains a central office in Washington, D. C., but a large part of the crop and livestock estimates program is carried out through 44 State offices serving the 50 States. Most State Statistical Offices are operated as joint State and Federal services through cooperative arrangements with various State agencies. As of October 31, 1976 the service had 2,136 employees of which 1,122 were permanent full time.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

Item	Actual		Estimated		Budget Estimate	
	1976		Available, 1977		1978	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Statistical Reporting			a/			
Service.....	\$31,588,000:	1,750:	\$35,324,000:	1,844:	\$37,508,000:	1,868
Obligations under other						
USDA appropriations:						
Agricultural Marketing						
Service, for video						
tapes and data on egg						
marketing, grain						
storage and milk prices:	107,875:	3:	39,800:	3:	39,800:	3
Agricultural Stabili-						
zation and Conservation:						
Service, for data on						
feed grains, and						
wool and mchair prices:	50,000:	4:	53,000:	4:	53,000:	4
Economic Research						
Service, for data on						
acreage utilization,						
building and fencing						
material prices, cost						
of production, farm and:						
rural marketing, farm						
machinery, farm popu-						
lation, farm production:						
expenditures, farm real:						
estate, feed manufac-						
turers, fertilizer,						
grain stocks and						
monthly marketing.....	1,770,400:	92:	1,997,200:	104:	1,352,200:	96
Federal Crop Insurance						
Corporation, for acre-						
age, yield and produc-						
tion data on insured						
crops.....	213,000:	14:	224,000:	14:	224,000:	14
Food and Nutrition						
Service, for video						
tapes, sample design						
consulting service,						
school lunch survey and:						
data on milk.....	141,938:	6:	212,500:	11:	212,500:	11
Foreign Agricultural						
Service, for video						
tapes and LACIE.....	52,465:	2:	2,500:	--	2,500:	--
Miscellaneous reimburse-						
ments	930:	--	721,000:	35:	866,000:	43
Total, Other USDA Ap-						
propriations.....	2,336,608:	126:	3,250,000:	171:	3,250,000:	171
Total, Agriculture Ap-						
propriations.....	33,924,608:	1,876:	38,574,000:	2,015:	40,758,000:	2,039

	Actual		Estimated		Budget Estimate	
	1976		Available, 1977		1978	
	Amount	Man- Years	Amount	Man- Years	Amount	Man- Years
Other Federal Funds.....	1,557,241	65	1,662,600	80	1,662,600	80
Non-Federal Funds.....	77,641	7	87,400	7	87,400	7
Total, Statistical Reporting Service.....	35,559,490	1,948	40,324,000	2,102	42,508,000	2,126

End-of-Year Employment:	1976 Actual	1977 Estimated	1978 Estimated
Permanent full-time.....	1,139	1,175	1,183
Other.....	1,068	850	850
Total.....	2,207	2,025	2,033

a/ Excludes proposed supplemental of \$627,000 for increased postal costs.

Statistical Reporting Service

Appropriation Act, 1977.....	\$33,827,000
Budget Estimate, 1978.....	37,508,000
Increase in Appropriation.....	<u>+3,681,000</u>

Adjustments in 1977

Appropriation Act, 1977	\$33,827,000	
Transfer from ASCS for rice.....	+130,000	a/
Transfer from AFHIS for livestock slaughter.....	+83,000	b/
1977 Supplemental Appropriation for pay costs.....	+1,284,000	
Adjusted base for 1978.....	35,324,000	c/
Budget estimate, 1978.....	37,508,000	
Increase over adjusted 1977.....	<u>+2,184,000</u>	

a/ On December 2, 1976 the functions relating to the rice study were transferred from the Agriculture Stabilization and Conservation Service to the Statistical Reporting Service.

b/ On August 25, 1976 functions relating to the livestock slaughter statistical program were transferred to the Statistical Reporting Service from the Animal and Plant Health Inspection Service. Actual transfer of funds of \$62,000 was made in FY 1977. On a comparable basis the full annual cost of the activity is \$83,000.

c/ Excludes proposed supplemental of \$627,000 for increased postal costs.

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increases</u>	<u>1978</u> <u>Estimate</u>
Improvement of price statistics ...	\$3,049,000	+\$500,000	\$3,549,000
GSA space costs	1,024,000	+ 498,000	1,522,000
Other operating costs:			
Increased pay costs	1,284,000	+ 12,000	1,296,000
Postage	1,900,000 a/	+ 627,000	2,527,000
Working Capital Fund services ...	(977,000)	+ 88,000	88,000
Other services	5,671,000	+ 459,000	6,130,000
All other.....	<u>22,396,000</u>	- -	<u>22,396,000</u>
Total available	<u>35,324,000</u>	<u>+2,184,000</u>	<u>37,508,000</u>

a/ Excludes proposed supplemental of \$627,000 for increased postal costs.

PROJECT STATEMENT

(On basis of adjusted appropriation)

Project	1976	1977 (estimated)	Increases	1978 (estimated)
1. Crop and livestock estimates.....	\$30,243,273	\$34,165,000	+\$3,921,727(1)	\$36,314,000
2. Statistical research and service	1,103,555	1,159,000	+55,445(2)	1,194,000
Unobligated balance lapsing.....	241,174	--	--	--
Total available or estimate.....	31,588,000	35,324,000a/	+3,736,000	37,508,000

a/ Excludes proposed Supplemental of \$627,000 for increased postal costs.

Project	1976	1977 :(estimated)	Increases	1978 :(estimated)
Transfer from ASCS for				
rice survey.....	-90,000:	-130,000:		
Transfer from APHIS for				
livestock slaughter.....	-83,000:	-83,000:		
Proposed Supplemental for				
pay costs.....	--	-1,284,000:		
Total, appropriation.....	31,415,000:	33,827,000:		

EXPLANATION OF PROGRAM

The Statistical Reporting Service (SRS), U.S. Department of Agriculture, prepares estimates of crops, livestock, poultry, dairy, prices, and related agricultural topics. SRS annually issues some 500 reports necessary for the efficient operation of the Nation's agricultural industry. In addition, 44 Federal-State field offices serving the 50 States release about 10,000 reports per year dealing with State farming activities.

SRS, the USDA's chief fact-gathering agency, began crop and livestock estimating more than a century ago to provide reliable and unbiased information for all sectors of the agricultural industry. The scope of this program has altered to meet the changing needs and demands of producers, processors, manufacturers, and Government planners.

Crop reports provide estimates of acreages farmers intend to plant in the coming season, the acres planted and harvested, disposition of the crop production, and remaining stocks. Forecasts of yield and production are issued monthly during the growing season based on information voluntarily provided by farmers and from counts, measurements, and observations made in sample fields by SRS enumerators.

Livestock and poultry reports include estimates of animals on farms and ranches, or in feedlots. Estimates are made of breeding and production intentions; year-end estimates cover production and disposition of major livestock and poultry species. SRS also tracks slaughter numbers and meat production.

Dairy reports indicate milk cows, monthly and annual milk production, and use of milk. Production of major manufactured dairy products is reported weekly and monthly.

Price reports show prices received by farmers for nearly 200 products and prices paid for about 600 items needed for production or family living. Reports cover indexes of prices received and paid, parity prices, and season average prices of crops, livestock, and livestock products.

Other reports deal with labor and wages, fertilizer, seeds, bees and honey, naval stores, stocks of major commodities, cold storage holdings, and other agricultural elements.

SRS provides review, clearance, coordination, and direction for the Department's statistical activities. Services in designing, implementing, editing and summarizing surveys for requesting agencies are also provided on a reimbursable basis. Additionally, SRS performs fundamental research on data collecting, processing, and estimating techniques.

JUSTIFICATION OF INCREASES

(1) A net increase of \$2,149,000 for crop and livestock estimates consisting of:

- (a) An increase of \$12,000 for annualization of pay increases effective in FY 1977.
- (b) An increase of \$482,000 for space rental costs pursuant to P.L. 92-313.
- (c) An increase of \$622,000 for increased postal costs.
- (d) An increase of \$88,000 for Departmental working capital fund services.
- (e) An increase of \$500,000 for the improvement of price statistics (\$3,049,000 available in 1977).

Need for Increase: The need for improving the reliability of SRS statistics on prices paid and received by farmers has long been recognized by the Congress. The appropriated base was increased by \$310,000 in FY 1977 for SRS to begin a four year modernization program to further strengthen price statistics. The \$500,000 requested for FY 1978 is the second increment necessary in the effort to bring the quality of this statistical program into line with the high degree of efficiency and effectiveness existing with the SRS production estimates. Reliable price statistics are needed to provide appropriate information at a time when price levels and marketing patterns are changing rapidly for both domestic and foreign markets. The increased dependence upon reliable price data for government programs that are designed to provide a fair return to producers further emphasizes the need to improve price survey methodology.

Plan of Work: The \$500,000 increase for FY 1978 would be used to conduct a nationwide point-of-sale survey. A random sample of 50,000 farmers would be asked the types of outlets where they sell their products. The data would permit SRS to determine the relative importance of various points of sale, a necessary step in properly constructing price statistics. The survey would be conducted with the extensive use of part-time enumerators who would interview 50 percent of the farmers not responding to the mail questionnaire portion of the survey. Additional staff will be required in a number of State Statistical Offices to fully implement this survey.

(f) An increase of \$445,000 for other services.

Need for Increase: Continuing inflation has been absorbing program funds and necessitates an increase for such items as:

<u>Item</u>	<u>FY 1976 Base (000's)</u>	<u>Inflationary Rate</u>	<u>Increased Cost (000's)</u>
Airlines, private rental vehicles, transportation costs, Centrex, FTS, rental of remote terminals, contracts and agreements, computer usage, supplies and equipment	\$5,126	6.3%	\$323
Printing and copying costs	<u>545</u>	<u>25.0%</u>	<u>136</u>
Total	5,671		459 <u>a/</u>

a/ \$14,000 of this increased cost is requested in the increase for Statistical research and service.

These funds will assist SRS in maintaining current sample sizes in four major surveys -- the June Enumerative Survey, the December Enumerative Survey, the Hog Multiple Frame Survey, and the Cattle Multiple Frame Survey. Any reduction in the sample size would reduce the precision of survey results and jeopardize SRS's mission of providing reliable crop and livestock estimates.

- (2) An increase of \$35,000 for statistical research and service consisting of:
 - (a) An increase of \$16,000 for space rental costs pursuant to P. L. 92-313.
 - (b) An increase of \$5,000 for increased postal costs.
 - (c) An increase of \$14,000 for other services.

STATUS OF PROGRAM

The Statistical Reporting Service (SRS) administers the Agriculture Department's program of collecting and publishing current national and State agricultural statistics. Statistical data provided by the Service on the full spectrum of agriculture are essential in making orderly production and marketing decisions.

SRS programs are organized in the following major areas: (1) crop and livestock estimates, (2) statistical research and service, and (3) work performed for other government agencies.

CROP AND LIVESTOCK ESTIMATES

Current Activities: This program includes collecting, analyzing and publishing production and marketing data on agriculture; number of farms and acreage in farms; crop acreage, yields, production, stocks, value, and utilization; inventories and production of livestock and poultry, eggs and dairy products; prices received by farmers for products, and prices paid for commodities and services for living and production, and related indexes; farm employment and wage rates; cold storage supplies; and other relevant aspects of the agricultural economy.

Estimates for about 150 crops and 50 livestock items are published in some 500 reports each year. All information is made available to the news media and public at scheduled release times.

Thousands of farmers, processors, merchants, and others voluntarily respond regularly to surveys about crop, livestock, and other agricultural activities. These reports are supplemented by field observations, objective yield counts and measurements, and other data to provide basic information for estimates issued to the public.

Program Goals: The principal goals of this program are to (1) increase the accuracy, dependability and public usefulness of national and State data, (2) provide additional data and services needed for commercially important segments of the industry, (3) conduct regular commodity program reviews to assure that statistical information is collected and published in an efficient manner and is satisfying user needs, (4) minimize the time between data collection and release, and improve information distribution, and (5) reduce response burden on individuals contacted in surveys.

Selected Examples of Recent Accomplishments

A. Activities to Increase Data Accuracy and Dependability

1. December and June Enumerative Surveys: In FY 1976, the December and June Enumerative Surveys--probability surveys--were again conducted in the 48 contiguous States.

- a. Program Activities: The 1975 December Enumerative Survey obtained information on livestock, poultry and fall seedings of wheat and rye from operations covering more than 22,000 tracts of land selected from the 1975 June Enumerative Survey. Sample selection concentrated on tracts which either had or reported intentions to have winter wheat or livestock. In addition, information was obtained from 19,301 large livestock and poultry operators.

The 1976 June Enumerative Survey obtained information on planted and harvested acreages of crops, land use, livestock, farm labor, farm grain stocks and farm numbers from a sample of 16,047 land segments--each containing about 8 separate tracts of land. In addition, information was obtained from a sample of 16,372 large livestock producers.

This is the agency's largest probability survey and employs about 1,500 part-time enumerators. In addition to data for estimates, it provided information requested by other agencies; for example, land use, farm population, hired agricultural labor.

- b. Area Frame Development and Maintenance: New area frame construction was completed for Hawaii, Kentucky, and Wisconsin. Replicated samples were selected for crop and livestock surveys and also for annual economic surveys. The Hawaii area frame is to be used for Quarterly Agricultural Labor Surveys. Frame construction for North Carolina, North Dakota, and Tennessee is underway.

During most of the year heavy emphasis was placed on developing independent replicated samples for the increasing number of economic type surveys conducted by SRS. An additional sampling materials group was established in Fairfax, Virginia, to handle the increased mapping and photography preparation workload.

New replicated samples were selected for the Farm Production Expenditure Survey for Arkansas, California, Colorado, Florida, Kentucky, New York, Oklahoma, Oregon, Pennsylvania, South Dakota, Texas, Washington, and Wisconsin. The total number of sampling units selected for these States was 2,815. Replications were added to Texas, South Dakota, Indiana, Iowa, Kansas, and Minnesota making a total of 4,441 sample units available for economic surveys in these States. Additional samples will be added later in remaining states to build the total sample available for economic surveys to approximately 16,500 units.

On-going maintenance and scheduled replacement of area frame sampling material in 1976 involved about 4,000 sample units.

2. Acreage Update Survey: Acreage data collected in the June Enumerative Survey were updated by interviewing over 11,400 tract operators in July to determine changes between planting intentions and actual plantings.
3. Multiple Frame Livestock and Poultry Surveys:
 - a. Program Activities: Continued emphasis was placed on program improvements during the year. Considerable effort was expended in developing improved sampling frames and stratification, automating sample selection, and data analysis. There are now 23 hog and 34 cattle States included in the multiple frame livestock program, which represent about 95% of the U.S. inventory numbers. Surveys are conducted in these States for December 1 and June 1 for hogs and January 1 and July 1 for cattle. In addition, there are 14 States involved in the hog and pig inventory estimates for March 1 and September 1 that utilize multiple frame surveys.

These surveys utilize two sampling frames: a list of agricultural units (names and addresses) stratified by size of operation; and the land area frame used in the June and December Enumerative Surveys. The lists are built from several sources inside and outside the agency--Agricultural Stabilization and Conservation Service (ASCS), Soil Conservation Service (SCS), State Farm Censuses, Extension Service (ES) and industry sources.

Multiple frame procedure studies were conducted in 6 States to review and, if possible, improve survey procedures required in the joint use of the list frame and area frame. Results of the study were used to modify current procedures, and improve definitions. These changes allow

the large operations to be handled the same for both the June and December Enumerative Survey and the Multiple-Frame Livestock Survey.

State Statistical Offices (SSO) in Virginia, Alabama, and Arkansas continued the multiple frame approach instituted during FY 1973 in estimating chicken inventories and layers. Probability samples, selected for monthly surveys, were rotated to reduce respondent fatigue and provide more up-to-date control data. The Texas SSO, with State funds, used a multiple frame approach in estimating the annual December 1 chicken inventory.

- b. List Updating and Maintenance: During the year, all States in the multiple frame program updated their lists and selected new samples. Sampling errors are evaluated and monitored continuously to identify critical needs in updating. This portion of the program requires a considerable amount of time, effort, and expense but is absolutely essential if the agency is to continue providing accurate agricultural statistics.

4. Objective Yield Surveys:

- a. Wheat, Corn, Cotton, and Soybeans: Objective yield surveys for wheat, corn, cotton, and soybeans continued in the major producing States. The overall sample size was unchanged from the previous year except for corn. Some shifts in allocations among States were made to improve efficiency. There were 17 States in the wheat program with 2,510 samples (1,880 winter wheat, 400 other spring, 230 durum); 14 States for cotton with 2,510 samples; and 14 States for soybeans with 1,675 samples. Texas was added to the corn program in 1976 bringing the total to 3,400 samples in the 20 States.

Following special training, about 700 enumerators interviewed farm operators and made field counts and observations monthly through the growing season and harvested a sample of the mature crop. The survey concluded with post-harvest observations to determine harvesting losses. Results from these surveys were used as major indicators of yield.

Enumerators also asked farmers the kind and application rate of fertilizer applied to wheat, corn, cotton and soybean sample fields.

Several modifications were made in efforts to improve the cotton objective yield program. Special one-day training schools for supervisors were conducted toward the end of the growing season. Supervisors then met with their cotton enumerators to review the key definitions and counts for the late season visits. An extra field visit will be made in nearly every State in order to obtain the best information.

In addition, projects to study average boll weight data were conducted in Alabama and Georgia and a project to determine the ratio of large bolls counted on the last objective yield visit to those that finally open and produce cotton was carried out in Arkansas and Oklahoma. The analysis of these data will be used to evaluate current survey procedures and identify areas for improvement.

- b. Potatoes: Objective yield surveys were continued in 12 fall crop potato States, which produce 85 percent of the national crop. A total of 2,100 samples was assigned to these States to provide the primary yield indicator. Probability surveys also are conducted in these States to obtain primary indications of planted acreage each year.

- c. Tart Cherries: Supplemental funds for a tart cherry objective yield survey in Michigan were again provided by that State. In addition to providing data for the mid-June forecast of production using a sample of 300 orchards, data were collected to update forecasting parameters and to determine harvesting losses.
- d. Burley Tobacco: Objective yield surveys were conducted for burley tobacco in Kentucky to supplement indications obtained from mail surveys. Plant counts were made in 120 fields and, at time of stripping, average weights of cured leaves per plant obtained. In addition, leaf count and measurement work is conducted in a subset of 40 fields and used in forecasting the crop.

5. Potato Stocks Surveys:

- a. Quality: A survey to determine quality of potato stocks was operational in the Red River Valley of North Dakota and Minnesota. Changes in weight and grade are measured between the time potatoes move into storage and when they are removed.
- b. Quantity: A multiple frame probability survey was initiated for six additional States in 1975 to provide increased accuracy of potato stocks estimates. One additional State will be included for the 1976 crop, bringing the total number of States in the probability program to nine. Coverage of potato storages has improved and indications appear more stable as a result of this effort.

6. Fresh Market Vegetables:

Changes were implemented in the fresh market vegetable program that discontinued estimates for many miscellaneous vegetable crops and for commercial vegetables grown only for "local market" production. The latter category includes vegetable crops for those States generally producing less than 1 percent of the United States' total or having an annual value below 1 million dollars. Estimates for that group of States accounting for roughly 5 percent or less of the total for any vegetable crop were reduced to an early season and an end-of-season estimate. These changes permit savings in resources that are being utilized for the improvement of estimates for remaining vegetable crops.

7. Quarterly Agricultural Labor Surveys:

These surveys, utilizing the multiple frame technique of list and area sampling, were continued in 1976. Hawaii was added to the quarterly program for October 1976. Present procedures use farmers' answers to screening questions to determine whether an individual in the area frame sample is on the list frame or not. A study to evaluate these and alternative procedures is being conducted.

The Quarterly Agricultural Labor Survey was expanded in October 1975 to include a sample of 600 farms in Puerto Rico. First publication on Puerto Rico farm labor statistics was issued January 9, 1976 covering the October estimates. Since the initial issue, releases have been published in English and Spanish, with Farm Labor being the first and only bilingual report issued by the Crop Reporting Board.

With the expanded sample of 18,000 farms starting with July, 1975, State estimates were published separately for field and livestock workers and other hired workers in addition to all hired workers. Other features included in the Farm Labor release beginning in July 1975 were a brief description of the

multiple frame survey methodology and publication of coefficients of variation (C.V.) on a regional and National basis. Publication of C.V.'s is also a first for SRS on a regular basis. C.V.'s generally ranged from 2.8 to 3.6 percent at the national level.

8. Prices Received Probability Sampling:

Probability surveys will be initiated for pricing six important commodities beginning in January 1977. These are corn, soybeans, grain sorghum, oats, wheat and barley. This is in addition to the prices received surveys for cotton and rice which were placed on a probability basis during 1976. Rice prices are collected by an enumeration of rice mills and cotton prices are collected from a probability sample of cotton buyers. Prices received for the other six grains will be collected from a probability sample of 2,000 mill and elevator firms. The total universe of mills and elevators is approximately 15,000. This will place the data collection on a probability basis for commodities accounting for about one-third of the 1975 U.S. cash receipts from farming.

B. Activities to Provide Additional Data and Services

1. Farm Production Expenditure Survey: The Annual Farm Production Expenditure Survey was expanded in 1976. The Statistical Reporting Service and the Economic Research Service combined funds to increase the sample size from about 2,000 to 6,000 completed questionnaires and obtain additional economic data on grain marketing, energy use, equipment and input inventories, assets and off-farm income. Processing was expedited and a preliminary release issued in July 1976 and the final detailed summary published in October 1976. The survey provides: (1) data to review and update the Parity Index, (2) annual data for estimation of production expenses to improve net farm income estimates, and (3) additional data needs of the Economic Research Service. Eight States were able to utilize a new area frame sample selected specifically for Annual Economic Surveys in 1976. Nearly all States will have the new area sample available for use in the survey conducted in 1977.
2. Farm Family Living Expenditure Survey: Survey results were published in September 1975 and a paper presented at the November 1975 Outlook Conference. Data tapes were provided to ERS and Agricultural Research Service (ARS). ARS and ERS have prepared several articles based on special analyses of the data.
3. Revision of Price Indexes: The composition of price indexes and index computation procedures were reviewed by Drs. Dahl and Houck of the University of Minnesota. Proposed changes were sent to data users for comments. The proposed changes were modified slightly based on user comments. Actual work on revisions was started in the fall of 1975 and completed in May of 1976. The revised indexes using the 1971-73 base weight period for 1965 through April 1976 and reflecting current weights were released with the May 1976 Agricultural Prices Report.
4. Modification of the Price Program: A comprehensive review of the procedural aspects of the program for prices received and paid by farmers was completed and approved in early 1976. The changes strengthen the overall program for price estimates and better utilize available resources.

Modifications in the prices received program included discontinuation of estimates for prices received for American Pima cotton, rye, chickens (excluding broilers), all seeds and milkfat in cream. Cotton prices received procedures were modified to initiate collection on a probability basis. Revised previous month price estimates are published for sales for

the entire previous month. Further modifications in prices received estimates were made by eliminating monthly estimates for commodities in States accounting for a minor portion of U.S. sales. The number of monthly State estimates was reduced from 1,178 to 787. Monthly estimates were continued for all major commodities for those States that account for at least 90 percent of U.S. sales and in most cases account for more than 95 percent of U.S. sales.

Modifications in the prices paid program included the discontinuance of the separate chain store survey, showing only regional and U.S. estimates in place of State estimates for selected survey items and reducing the number of items surveyed. These changes were started in the fall of 1976 and are to be completed in early 1977. In addition, the Department proposes to substitute the Consumer Price Index for the Family Living Index component of the Parity Index. This substitution would be made in early 1977 and would permit the Department to discontinue food, clothing, and home furnishing surveys.

The following schedule to further improve the program for price statistics is planned, dependent upon the availability of adequate resources:

1978 - A National Point of Sale Survey to determine the appropriate firms to survey for a probability sample of prices received for commodities that are not yet on a probability basis.

1979 - Probability sample of prices received for all crop items other than grains and cotton (already being covered) in all States.

Probability sample of prices received for livestock and poultry items in 20 States.

A National Point of Purchase Survey for Prices Paid items.

5. White Corn Acreage and Production Surveys: White corn planted and harvested acreage and production estimates for 10 major producing States were published based upon multiple frame survey procedures.
6. Weekly Weather and Crop Bulletin: The national Weekly Weather and Crop Bulletin continued to be published in cooperation with the U.S. Department of Commerce. This publication has wide public interest because it relates to current conditions and progress of crops and helps bridge the information gap between monthly crop reports. News reporters, government economists, and industry representatives follow the report closely.

Crop comments are supplied by SRS field offices, while precipitation, temperatures, and other related weather information come from the National Oceanic and Atmospheric Administration.
7. Potato Acreage by Type and Variety Planted: Information about the type and variety of potatoes planted in the 12 fall potato objective yield States was published for the first time in October 1976. The data indicated the proportion of total potato acreage by variety and type for farms on which objective yield samples were located.
8. Onions: Beginning with the 1975 Fresh Market Vegetable annual report, all onions were classified as being either "primarily fresh market" or "primarily processing."

9. Fruit Tree Survey: A program providing for State rotational surveys for tree inventory and production estimates has been reinstated with SRS funds to be matched by industry or State funds. Fruit tree surveys were completed in 14 States in FY 1976.

New area frame sample techniques are being studied in an effort to develop more efficient methods of estimating fruit acreages by type, age and variety. Land area in Oceana County, Michigan was stratified on aerial photography according to the intensity of fruit acreage. Optimum size and number of area sampling units needed to efficiently estimate fruit acreage will be evaluated for each stratum as well as the overall sampling approach.

10. Lemons: The first seasonal forecast of lemons for California was advanced to October 1 from November 1 beginning with the 1976 crop. Combining the California forecast with Arizona provides an all-lemon production estimate for the U.S. on October 1.
11. Fruits: Agricultural Handbook No. 186, which includes updated bloom and harvest dates for citrus, non-citrus and tree nuts in major production areas and varieties was issued in December 1975.
12. Apples: Georgia was added to the current apple estimating program.
13. Sweet potatoes: The disposition breakdown published for sweet potatoes was changed to show shrinkage and loss as a separate item starting in August 1976. This change makes the sweet potato disposition breakdown consistent with the disposition classifications used for Irish potatoes.
14. Vegetables: Agricultural Handbook No. 251, "Usual Planting and Harvesting Dates," for vegetables currently in the vegetable estimating program is being revised and updated and will be released in December 1976.
15. Sunflower Seed: Estimates of the acreage planted to sunflower seed in Minnesota and North Dakota were included for the first time in the June 1976 Acreage Report. Oil and non-oil acreages were published separately. Estimates of acreage harvested, yield and production by oil and non-oil class will be published in the 1976 Annual Crop Summary. Sunflowers are an important commercial crop in the agricultural economy of these two States, both from the standpoint of competition for land use and farm resources as well as a source of oil competing with other crops, primarily soybeans.
16. Commercial Floriculture: In response to the changing data needs of the floriculture industry, program modifications will be made for the January 1977 survey. These include the addition of seven important commodities and, to offset increased survey costs, the implementation of a "major States only" concept for any single crop. In addition, two items involving firm size of business classification and area in production, which were of negligible benefit to data users, will be deleted.
17. Peanut Stocks and Processing: Beginning in August 1976, summarization of "commercial stocks" was changed to include only the peanuts destined for commercial use, i.e., Commodity Credit Corporation peanuts that were contracted for toll crushing were excluded from commercial stocks. The 1975 data were adjusted to be comparable with 1976. This change was requested by the trade.
18. Expansion of Sugar Program: With the termination of the Sugar Act of 1948, the SRS was delegated the responsibility to collect and publish data related to factory production of sugar and molasses together with associated data

including polarization, sucrose, and purity. In addition to the above responsibilities, SRS State offices will publish county estimates of acreage, yield and production of sugarbeets and sugarcane.

19. Weekly Egg-type Chick Report: The State Statistical Offices in California, Georgia, Mississippi, Oregon, and Washington issue a weekly egg-type chick hatchery report as part of the weekly broiler placement release. Reports for California, Mississippi, and Georgia show individual estimates of eggs set and chicks hatched for each of the five States and the 5-State total. In Washington and Oregon, the respective estimates and a total for the Pacific Coast States are published for eggs set and chicks hatched. An estimate of pullets placed is also published in Oregon.
20. Egg Production Estimates by Use: Alabama, Arkansas, and Virginia continued to publish separate monthly estimates of market eggs and hatching eggs. Georgia, the only other State making this separation, conducts the work with State funds.
21. Multiple Frame Egg Survey: The three multiple frame poultry States, Alabama, Arkansas and Virginia, continued to conduct a December survey of commercial egg producers by type of flocks for estimates of laying flocks and other classes of chickens. These States also use probability sampling for making monthly estimates of hens and pullets of laying age (HPLA), rate of lay and egg production. The list frame covers over 95 percent of the HPLA in the universe and the area frame represents the other 5 percent. Probability sampling has significantly improved the accuracy of the monthly estimates and has minimized the number and size of monthly revisions.
22. Livestock Slaughter: Starting January 1, 1977, a new livestock slaughter data reporting system involving the Animal and Plant Health Inspection Service (APHIS), the Agricultural Marketing Service (AMS) and SRS will be implemented. The system is a direct result of requests from most areas of the livestock industry and will provide additional data on slaughtered livestock at an earlier date and will use weekly mailing of raw data, in lieu of the current daily mailing. This system will provide slaughter data by class and actual live and dressed weights on a weekly basis. These data are currently not available. The monthly survey now being conducted by SRS for the average live weight and dressed weights of livestock slaughtered will be discontinued. These data will be collected as part of the new livestock slaughter system.
23. Turkey Breeder Hen Inventory December 1: The number of turkey breeder hens in flocks on December 1 is now being published by breeds and age groups in response to the needs of the turkey industry.
24. Cold Storage Program: Decentralizing of the cold storage program will be tried in five States beginning January 1, 1977 to see if it is feasible for all States. The State Statistical Offices collecting the monthly cold storage data should improve monthly coverage of storage facilities and the quality of the data.
25. Five-State Special April 1, 1976 Winter Wheat Forecast: A special survey was conducted in Colorado, Kansas, New Mexico, Oklahoma and Texas to evaluate probable acres for harvest and prospective 1976 production based on April 1 conditions. Publication was in the April 9 Crop Production release. This early forecast was necessitated by data demands resulting from the dry fall and winter weather in the southern and central Great Plains which left the wheat crop exposed to winter winds and other winter damage.

26. Rice Planting Intentions and Planted Acreage Estimates by Length of Grain: Beginning in 1977, rice acreage will be estimated and published by short, medium and long grain class for the January and April Prospective Plantings reports and for the June Acreage report.
27. Early Monthly Sales for ERS: Monthly sales data, based on purchases by mills and elevators, are normally collected and made available after the close of a crop marketing year. In April 1976, monthly sales for 1975 crops from the beginning of the marketing year through the remainder of calendar year 1975 were collected and provided to ERS for their use in calculating farm income estimates for 1975.
28. Planting Intentions Reports: The January Planting Intentions report to determine acreage planting intentions for major crops was expanded to include 48 States. In previous years, the survey was made in only 35 States. Rice was not included since the new rice program was announced during the time the survey was being made. The report was issued January 21, 1976. The second intentions report, which previously has been made as of March 1, was moved to April 1 to provide an indication of acreage to be planted just prior to the major planting period for spring crops.
29. Farm Classification Survey: A Farm Classification survey was conducted in Tennessee in May 1976 to determine: (1) if REA Cooperatives are reliable list sources for names of farmers; (2) if Cooperative personnel can segregate farmers from non-farmers and provide some information about farmers; and (3) which of several types of questionnaires will elicit the highest response rate. Results of this survey were used as a guide in a nationwide SRS project to compile a master list of farms in the U.S. for sampling purposes.
30. Selected Examples of Special State Funded Projects:
 - a. Alaska: A survey was conducted in Alaska during April 1976 to collect basic data about investments, inventory, sales, production cost and expense, and marketing expense for crops, livestock, and greenhouse products. Results of the survey will provide a basis for future decisions on agricultural land use and policy for the State, data for producers upon which to base expansion plans, and investors for supporting the industry. Survey results are to be published by January 1977.
 - b. Arkansas: An orchard and vineyard survey was conducted in early 1976. This survey provided information on the varieties of fruit and grapes in the State by age of tree, number of acres in fruit trees and vineyards, and intentions to remove production units and set new trees or vines. It also provided an estimate of total production and marketing methods. Data were published in early June 1976.
 - c. Texas: A peach tree survey was conducted in Texas in September 1976 to improve production forecasts and provide varietal and other data needed by the industry. The results of this effort enhanced the estimating program by providing up-to-date information on numbers of peach trees and production data which will be useful as bench marks for the future.
 - d. Wisconsin: A marketing survey covering corn and soybeans was conducted in Wisconsin in August and September 1976. The survey was designed to identify existing problems in the Wisconsin grain marketing system. Results were published in October 1976.

C. Activities to Review Commodity Programs

1. Studies of (a) Effects of Market Changes on Price Indexes and (b) Impact of Service Reports on Market Prices: The Agency renewed an agreement with the University of Minnesota to continue work in FY 1976 relative to studying the effect of market changes on the indexes of prices paid and received by farmers. In addition, a new agreement with the University of Minnesota was signed in June 1976 to determine the impact of SRS reports on market prices.
2. Study of Agricultural Information and Data Collection System: An agreement was entered into with Michigan State University to examine the relationships between the decision-making process, economic analysis, and statistical data systems for agriculture in defining an improved agricultural information system. Primary emphasis, initially, will be to examine the prices received data series and its relationship to structural marketing concepts.
3. Grapes and Pears: After reviewing availability of end-of-season check data and utilization reports, publication date for revised production and utilization of grapes and pears was moved up to mid-July instead of the following January.
4. Citrus: Revisions in January for California citrus have been eliminated since the check data are not final until the end of the season.
5. Deciduous Fruits: The low response rate for deciduous fruit surveys is being evaluated and State Statistical Offices are now submitting plans to improve response to over 75 percent. States are being urged to implement probability sampling methods and many have made plans to do so.
6. Vegetables: Plans have been completed to combine publication of several current but separately published fresh market and processing vegetable reports. Final season average prices will also be published in the June Vegetable release.
7. Tobacco Types: The possibility of eliminating "type estimates" of flue-cured tobacco is being reviewed. Estimates are currently made for four types of flue-cured tobacco, i.e., types 11, 12, 13 and 14. Preliminary investigations indicate that there is essentially no difference among these types in terms of usage. It is, therefore, proposed to estimate only the class 1 flue-cured tobacco by States with no type breakdown. Comparable data for previous years would be available by adding the individual class data together by States.

D. Activities to Expedite Processing and Release of Reports

1. Rapid Data Transmission: Releasing crop and livestock estimates via computer network processing was expanded to include all except the Alaska and Hawaii offices. The system is used regularly for major SRS releases such as Acreage, Crop Production, Milk Production, Cattle on Feed, semi-annual Cattle, quarterly Hog and Pig Inventories and U.S. Grain Stocks. Data released in this manner are more readily available to other government agencies and the general public for a more timely analysis of these estimates.

Network processing provides computer summarization of estimates and direct output to camera copy for offset printing. Fuller use of the network this year is expected to change coding to entirely eliminate reliance on the mail

communication system for submission of a major series of reports by the State Statistical Offices to D.C. Satisfactory performance of the system may permit establishing earlier release dates on some national reports.

The national facsimile network serves as a valuable tool for disseminating nonautomated high priority data and estimates to the 48 contiguous States. Facsimile transmission continues to serve as an essential backup for the computer network and mail systems, although relatively slow and of marginal quality. Usage volume does not justify incurring higher costs to upgrade the facsimile equipment.

2. Computer Processing: The use of general purpose computer processing systems continued to be the principal method of automation of new projects and major redesign efforts of existing systems. This, coupled with the computer network, allowed for more rapid development of improved methods and eliminated considerable duplication of effort for ADP personnel. SRS continued to decentralize from Washington, D.C. to the State Statistical Offices more of the editing and summarization phases of data processing. This allows the close review of survey data to be performed nearer the point of data collection and permits summaries to be produced more quickly at the point where the initial survey analysis is to be made. Examples of decentralization occurring in the past fiscal year are in the wheat and corn objective yield programs; editing of the June Enumerative Survey data; the Commercial Fertilizer, Manufactured Dairy Products, and Bee and Honey Surveys.

Major systems under development include a data base system for use in generating publications and for access by news media and data users with ADP capability.

3. Automation of Crop Report: In April 1976, the estimates portion of the Crop Report Automated Processing System became operational allowing State Statistical Offices to submit recommendations to D.C. via the computer network. The Estimates System provides validation checks to assure each SSO submits the required recommendations. In conjunction with the data base, worksheets for early review by commodity statisticians and camera copy can be produced by computer. Currently an Indications System is being developed and tested allowing SSO's to submit indications via the computer network. When the Indications System becomes operational, submission of the monthly Crop Production report will be independent of the Postal Service.
4. Data Base: The Official Estimates Data Base now is supporting all acreage, yield, and production reports issued for field crops, fruits and nuts. As this data base matures, it will become the official source of estimates available in a machine-processible form.

STATISTICAL RESEARCH AND SERVICE

Current Activities and Trends: Most funds used for research and service are directed toward improving the Agency's crop and livestock estimating techniques. Considerable emphasis is placed on improving sample survey designs as well as testing new forecasting and estimating techniques. Other activities include the review, coordination, and monitoring of surveys conducted by the Department. This involves the review of all proposed statistical forms and survey plans requiring Office of Management and Budget clearance, and coordination of all inter- and intra- Department programs for the improvement of agricultural statistics.

Program Goals: The principal goals of this program are to (1) coordinate and direct statistical clearance and services in the Department, (2) provide research support for operational programs, and (3) conduct research to develop improved estimating techniques.

Selected Examples of Recent Accomplishments

A. Statistical Clearance and Consultation: The Statistical Clearance Office serves as USDA's liaison with the Office of Management and Budget (OMB) in its role of planning and coordinating Federal statistical activities and administering the Federal Reports Act. The principal function of the Statistical Clearance Office is to administer Department of Agriculture regulations pertaining to statistical standards and the Federal Reports Act and to assure compliance with the Act. During Fiscal 1975, the Clearance Office reviewed and processed 332 requests for clearance of statistical survey plans, forms, and reporting or recordkeeping requirements. In addition to this review, staff assistance on sample design, survey planning, and questionnaire construction was provided to a number of Department agencies. Under the direction of OMB guidelines, SRS also handled the data collection function of several surveys for other agencies. Special activities of the staff included: (1) participation on an OMB Occupational Classification Committee and related technical work groups; (2) coordination of Department of Agriculture listings of personnel for inclusion in the 24th edition of OMB's Federal Statistical Directory and similar coordination of Department of Agriculture inputs for the OMB publication, "Statistical Services of the United States Government"; (3) coordination of updating materials for the Census Bureau's 1976 Statistical Abstract; (4) participation in the planning and coordination of the Department of Agriculture's role in assisting with the 1978 Census of Agriculture; (5) coordination of Department of Agriculture participation in planning for the 1977 Economic Censuses and the 1980 Census of Population and Housing; and (6) administration, within the Department, of the Presidential mandate to reduce the number of public use forms and hours of reporting burden imposed on the public by the Federal Government.

B. Research to Improve Operational Programs:

1. Improved Technology: In FY 1976, new area frames were constructed in Hawaii, Kentucky, and Wisconsin. Early land use area frames for several States were converted to computer media enabling increased efficiency in sample selection and frame management. The method of replicated sampling is being used to reduce sampling errors, to make the sample selecting process more efficient and to reduce respondent burden.

Much emphasis has been placed upon the research effort required to develop, design, and test a system to build a list sampling frame. A sophisticated automated procedure to detect duplication of names has been developed and tested on a limited basis. Additional testing is proceeding currently and plans are to complete the processing of a pilot State through the list development process early in calendar year 1977. Analysis conducted on some potential lists for input to the system will provide a basis for future selection of list sources.

A considerable amount of effort has been spent in the development and design of the system requirements for using, maintaining, and updating the list frame once constructed. Also included is a sample selection management system with emphasis on minimizing response burden associated with list samples. Current plans are to develop a list sampling frame in most States by the end of calendar year 1977. The resulting general purpose list sampling frame will be reasonably complete and current with some data available to stratify the list units into homogenous groups and thus improve the efficiency of sampling from this frame.

2. Nonsampling Errors: Data collected for a reporting unit which differs from the sampling unit selected from a sampling frame will bias survey results. Research was conducted in Ohio and Wisconsin to identify errors due to differences between reporting unit and sampling unit on a hog and pig list frame survey. An alternative questionnaire to the one presently used was also included in the research. Analysis of data from the operational and test questionnaires and a subsample reinterview of each is in progress.

An additional estimator, called the weighted-tract procedure, is to be employed for livestock estimates in sixteen States beginning with the 1976 December Enumerative Survey. It depends upon accurate reports for land as well as livestock. A quality check study is planned to evaluate the nature and magnitude of any nonsampling error in this estimator.

3. Survey Methodology: Papers were written in several areas which could affect the future survey methodology employed by SRS. The first paper, entitled "Multiple Frame Livestock Surveys: An Evaluation of Alternative Methods of Overlap Determination," was the culmination of study in several States to find a better way to match area frame units with list frame units to clarify and simplify overlap and nonoverlap determination. Some of the results of this study have already been implemented in operational surveys.

Another paper, "The Effect on Sampling Errors Resulting From Using a Livestock List with an Area Frame Sample," discussed the advantages and problems associated with the current practice of using a list of large operators in conjunction with the area frame sample.

"Multiple Frame Estimation with Stratified Overlap Domain," proposed a new "full" multiple frame estimator to use for livestock estimates in place of the current "screening" estimator. This procedure combines estimates from both sampling frames making use of the stratification already available to reduce sampling error.

"Missing Data Procedures: A Comparative Study," presented alternative procedures which may be employed to compensate for refusals and other missing data reports from a list frame sample. An alternative to the current procedure is recommended.

"On Unbiased Estimation in the Area and List Frame," discussed the application of multiple frame sampling by SRS.

The last three papers were presented at the 1976 meeting of the American Statistical Association in Boston, Massachusetts.

Additional papers are forthcoming on methods which may be employed to reduce respondent burden and imputation of missing data.

4. Crop Yield, Estimation and Forecasting:

- a. Corn: The investigation of within-year time based models was continued in 1975 and 1976.

In 1975 the corn growth study was expanded to a pilot level with 30 sample fields in each of three States. The study in Iowa, Nebraska and South Dakota provided an indication of the operational feasibility of the type of data collection required for the within-year forecasting method. The use of a regional laboratory in Iowa to process sample ears from all three States was evaluated. Efficiencies of scale were generally realized in the larger laboratory operation. Results of the 1975 study indicated model forecast errors for Iowa and Nebraska of about

10 percent on September 1 and approximately 4 percent by October 1. Growth model forecast errors for the later developing and more variable South Dakota crop were higher. The model for survival of plants with grain was modified and successfully tested.

Research was continued at two levels in 1976. A pilot level project involving 24 sample fields was conducted for irrigated corn in west Texas. An expanded level project (78 sample fields) was carried out in Iowa. The expanded study in Iowa provided the first test of the within-year method at or near an operational level. On September 1, October 1 and for a November 1 forecast errors for the within-year growth model in west Texas corn were about 12.0 percent, 3.5 percent and 2.8 percent, respectively. Corresponding model errors from the larger study of Iowa corn growth were 7.5 percent, 2.5 percent and 1.8 percent.

- b. Cotton: Research on estimating cotton harvest loss was conducted in west Texas and Oklahoma in 1975. The project involved estimation of biological yield and used various methods of estimating harvest losses. Results for the six fields surveyed indicated that estimated harvest loss was about 8 percent greater when these more complete sampling methods were used. These methods involved sampling areas at field ends to reflect loss removed from fields and observing cotton stripper dump piles in a separate strata to reduce variability. For the six stripped fields in Texas and Oklahoma, estimation of the additional harvest loss reduced the net harvested yield estimate by one percent.

A follow-up study is being conducted during the fall of 1976. This is the Cotton Yield and Ginning Research Study and involves various methods of relating the amount of seed cotton harvested from fields to the amount of lint cotton ginned, the seed obtained and trash residual. Field work is being conducted in the Mississippi Delta and the Texas Panhandle.

- c. Spring Wheat: Research began in three North Dakota spring wheat fields in 1975 and was expanded to 11 fields in 1976 to determine the value of within-year time based yield forecast models. The research indicated that wheat growth and survival models based on the time after flowering may be useful in forecasting spring wheat average yield.
- d. Winter Wheat: Research conducted in 1976 for a sample of 13 wheat fields in south central Kansas investigated the application of within-year forecasting methods for winter wheat. These methods were successful in forecasting final head weights and plant survival after an initial period of growth. Delayed crop development may reduce the reliability of early forecasts in some years.
- e. Dry Beans: An objective measurement method of forecasting and estimating dry bean yields was studied in Michigan in 1976. This method relies on relationships between mid-season observations and measures of final yield and its components. The nature of the relationships is determined from past season data and used with current season counts and measurements to develop yield forecasts.
- f. Evaluation of Weather Variables: Several efforts have been and are being made to evaluate the use of weather variables in forecasting crop yields. Such variables have the potential of providing a useful supplement to plant measurement data or they may be used alone to provide some indication of final yields.

Research is now being conducted to develop models for forecasting future precipitation. These models, developed from historic weather data, may be used to adapt plant growth simulation models for forecasting final yields or to adjust plant observation yield forecasting methods for subsequent weather.

Evaluation of a system using weather data to forecast spring wheat yields in North Dakota, South Dakota, Montana and western Minnesota for 1975 was completed within the past year. This system involved the use of cloud data to predict precipitation between weather stations. The system provided a plant stress variable for each 12.5 X 12.5 mile agromet cell in the wheat areas based on predicted precipitation and soil type. The system was evaluated by pairing 240 randomly selected wheat samples in North Dakota with the agromet cell data. Results indicate no significant correlation between stress as generated by this system and biological yield. It was concluded that this particular system did not adequately explain variation in biological yield for spring wheat.

C. Research Toward Improving Estimating Techniques

Remote Sensing: Since the launch of LANDSAT in July of 1972, the Agency has investigated the potential of this technology as a source to improve crop acreage estimates. Livestock, crop yields, farmers' intentions are obviously outside the range of satellite inquiry.

In 1975, SRS completed the analysis of the LANDSAT 1972 data. This analysis indicated that LANDSAT might possibly be used to improve estimates of crop acreages, provided enough ground data are available to properly train and evaluate the computer classification.

Our recent work indicates that 60 samples of about one square mile per LANDSAT scene (10,000 square nautical miles) are necessary to train the computer. These 60 samples must be ground validated so that the analyst is sure of his computer training.

In 1975, SRS started projects in three States--Illinois, Kansas, and Texas. Hardly any imagery was available in Texas; clouds were always present over the crucial areas. Data analysis in Illinois is well under way and we have developed a system to perform most of the software functions needed to complete the studies. In Illinois we have completed three out of 16 LANDSAT scenes and have located our 60 ground samples per LANDSAT scene in most of the other 13 images.

Locating ground data in a LANDSAT scene is extremely time consuming and one of the real chores necessary to obtain something useful out of LANDSAT.

Analysis from the first three scenes indicate that (1) the extensive data sets can be processed in a very short time on the computer, (2) that estimates can be improved for crop acreages of major crops, (3) extensive ground data is necessary, and (4) mathematical statisticians are necessary to process the data.

SRS has published four papers explaining (1) the present systems used to estimate crop acreage and production, (2) the technology of LANDSAT as we see it, (3) what can be done about cloud problems, and (4) preliminary results. SRS is in the process of updating our results paper.

WORK PERFORMED FOR OTHERS

Program Goals: The primary aim of this program is to (1) design and implement surveys for requesting government agencies, (2) ensure that proper clearance and statistical procedures are followed, and (3) if requested, edit and summarize survey results.

Selected Examples of Recent Work

1. Farm Machinery and Building and Fencing Materials Price Survey: A total of 230 tractor dealers and 240 building and fencing material dealers in 25 States were contacted on a special survey in April 1976 to obtain data on dealer cost, markups, and actual selling prices. The data were obtained for an ERS farm input margin study.
2. Hired Farm Workers: Under a contract between the Statistical Reporting Service and the Employment Standards Administration (ESA) of the Department of Labor, the July Quarterly Labor Questionnaire contains questions relative to hired farm workers that provide the means to show regularly collected data in various detail needed by Employment Standards Administration. July 1974 data were summarized and transmitted in July 1975 to ESA containing 115 camera copy tables for their publication. Tables included breakdowns by 4 geographic regions and by covered and non-covered farms (over and under 500 man-days of employment). Such data included number of farms and number of workers by: value of sales; type of farm; age of worker; seasonal, regular, migratory, non-migratory, 75 to 149 days, and under 75-day workers; piece rate and time rate payment; size of labor force; size of labor payroll; family and non-family workers; overtime provisions; hours in work week; average hourly earnings; peak month for labor force; and others. The Employment Standards Administration uses this information to study the effects of the Fair Labor Standards Act, determine what changes may be needed, and how any proposed change in the law may affect the farming sector.

To fulfill a similar contract between the Statistical Reporting Service and Employment and Training Administration (ETA), Department of Labor, data were provided in May 1976 on the number of field and livestock workers by States and the percent each State is of the United States total. This included Puerto Rico but excluded Alaska and Hawaii and is used by ETA in allocation of Section 303 funds under the Comprehensive Employment and Training Act of 1973.

3. Rice Estimates by Length of Grain: Estimates of rice by length of grain were prepared at the request of ASCS. These data were published in the December Crop Production report based on a probability survey conducted in November. Final rice production and quarterly stocks estimates were published by length of grain.
4. Barley Variety Survey: SRS again provided barley variety information for the Malting Barley Improvement Association. The survey was conducted in the spring and covered 1976 plantings. The survey included the major malting barley States of California, Colorado, Idaho, Minnesota, Montana, North Dakota, Oregon, South Dakota, Washington and Wyoming.
5. County Data for ASCS and Federal Crop Insurance Corporation (FCIC): County estimates of acreage, yield, and production for the major field crops were again prepared for ASCS and FCIC. Estimates covered selected States and counties for ASCS and growing practices for FCIC where crop insurance programs were in effect.

6. Pacific Northwest Wheat Project: This regional activity produces a comprehensive quarterly accounting of supply and disappearance of white wheat and total wheat in the northwest. The primary purpose of the project is to provide current information on available supplies which are mostly exported.
7. Special Acreage Utilization: Data were collected in conjunction with the 1976 June Enumerative Survey for the Economic Research Service on farmers' changes in cropland use.
8. Livestock Cost of Production: A survey of costs of production for livestock species in 1975 was conducted for the Economic Research Service in 37 States during March 1976. Cattle, cattle feedlots, hog and sheep farms were included in the survey.
9. Futures Trading: Data were collected on farmers' use and awareness of the commodity futures markets as a part of the 1976 December Enumerative Survey. Information was collected for the Commodities Futures Trading Commission.
10. Feed Manufacturing Survey: An October 1976 sample survey was made of the major feed manufacturers in the United States to determine major characteristics and feed distribution channels. The survey sample of 4,600 firms included all firms with an annual production capacity over 10,000 tons. The survey was conducted for the Economic Research Service.
11. Alaska Cost of Production Survey: Through a cooperative survey effort of the Economic Research Service, Alaska Department of Economic Development, and SRS, a survey of costs of producing crops and livestock was made in Alaska. The survey included all farms with sales of \$1,000 or over.
12. Foreign Activities: SRS provides both technical assistance and training programs directed toward the improvement of statistical services in developing countries. These activities are primarily sponsored by Agency for International Development, but also some training is funded by participating governments, by Foreign Agricultural Service, Department of State, and international organizations.

A total of 163 foreign participants received training provided by this agency from July 1, 1975 to date. Training was provided in basic statistics, sample frame construction, sampling design, survey operations, and administration of a current data collection system.

SRS provided technical assistance to 15 countries using a team approach where possible. These projects were designed to assist the host country in developing a reliable sample survey system to provide current agricultural data.

For Fiscal Years 1976, 1977, and 1978 the appropriated and trust fund obligations and man-years for the Statistical Reporting Service are distributed geographically as follows: a/

	FY 1976 Actual		FY 1977 Estimate		FY 1978 Estimate	
	Obligations	Full Time MY b/	Obligations	Full Time MY b/	Obligations	Full Time MY b/
Alabama	\$ 418,042	12	\$ 422,000	13	\$ 446,000	13
Alaska	46,660	2	52,000	2	55,000	2
Arizona	249,775	7	278,000	8	302,000	8
Arkansas	455,761	13	482,000	14	515,000	14
California	1,154,195	33	1,164,000	34	1,241,000	35
Colorado	520,376	15	560,000	17	596,000	17
District of Columbia	11,354,897	411	14,049,000	426	14,769,000	425
Florida	628,460	18	639,000	19	689,000	20
Georgia	480,156	14	543,000	16	575,000	16
Hawaii	150,134	6	176,000	6	217,000	6
Idaho	452,812	13	487,000	15	520,000	15
Illinois	745,166	19	690,000	22	748,000	25
Indiana	468,760	13	492,000	15	528,000	15
Iowa	794,571	23	616,000	26	662,000	27
Kansas	612,003	17	656,000	19	712,000	20
Kentucky	444,993	13	488,000	14	517,000	14
Louisiana	372,893	11	432,000	13	457,000	13
Maryland	271,679	8	304,000	10	320,000	10
Massachusetts	395,671	12	408,000	13	429,000	13
Michigan	497,468	14	537,000	16	573,000	16
Minnesota	559,366	16	635,000	17	685,000	18
Mississippi	527,193	15	560,000	17	590,000	17
Missouri	532,455	15	530,000	17	572,000	18
Montana	357,710	10	406,000	11	435,000	11
Nebraska	660,859	19	717,000	20	774,000	21
Nevada	113,441	3	128,000	4	136,000	4
New Jersey	211,310	6	249,000	8	263,000	8
New Mexico	241,927	7	276,000	8	294,000	8
New York	397,181	11	496,000	15	529,000	16
North Carolina	551,182	16	599,000	19	645,000	20
North Dakota	436,773	13	466,000	13	498,000	13
Ohio	520,918	15	537,000	17	587,000	18
Oklahoma	459,971	13	481,000	15	517,000	15
Oregon	419,447	12	458,000	13	489,000	13
Pennsylvania	410,546	12	447,000	13	478,000	13
South Carolina	368,120	11	444,000	12	469,000	12
South Dakota	585,775	17	580,000	18	589,000	18
Tennessee	422,466	12	456,000	13	480,000	13
Texas	1,065,008	30	1,140,000	33	1,217,000	34
Utah	224,697	6	249,000	7	265,000	7
Virginia	381,445	11	416,000	13	438,000	13
Washington	425,198	12	495,000	13	525,000	13
West Virginia	172,678	5	200,000	6	212,000	6
Wisconsin	570,822	16	622,000	19	671,000	20
Wyoming	235,907	7	262,000	8	279,000	8
Total	\$31,366,867	984	\$35,324,000	1,067	\$37,508,000	1,081

a/ Excludes obligations and man-years for reimbursements.

b/ Man-years for other than full-time permanent are 766 (FY 76); 777 (FY 77); 787 (FY 78); and cannot be distributed by geographic location.

Crop Reporting Board 1977 Calendar

Lockup: 8:30am-3:00pm
Rooms 0201-0248

Lockup: 12:30-3:00pm
Rooms 0201-0210

Reports available from 1905 ★ Release hours: 3:00pm. for all reports except Cranberries and Celery 11:00p.m.

	Monday	Tuesday	Wednesday	Thursday	Friday	Monday	Tuesday	Wednesday	Thursday	Friday	
JANUARY	3 Poultry Slaughter	4	5 Celery	6	7 Vegetables, Turkeys					1 Poultry Slaughter, Dairy Products	JULY
	10 Crop Production	11 Milk Production	12 Potato Stock	13 Egg Products	14 Seed Crops - Pulling; Noncultural Fruits & Nuts - Annual	4 (Holiday)	5	6 Celery	7 Noncultural Fruits & Nuts - Midyear Supplement; Mint	8 Vegetables, Egg Products	
	17 Crop Production - Annual; Popcorn, Sunflower Seeds	18 Onion Stock; Honey - Annual; Sheep & Lamb on Feed	19 Cold Storage; Naval Stores	20	21 Prospective Plantings - Jan. 1; Cattle on Feed	11	12 Crop Production	13 Milk Production	14 Tall Fescue Seed (Southern States)	15	
	24	25 Grain Stocks, Rice Stock	26 Peanut Stock & Processing	27 Sheep & Goats	28 Livestock Slaughter; Eggs, Chickens & Turkeys; Jays & Eggs - Ann.; Crop Values	18 Cattle on Feed, Cold Storage	19 Lamb Crop & Wool	20 Naval Stores; Eggs, Chickens & Turkeys	21	22	
	31 Agricultural Prices; Dairy Products; Com. Fertilizers					23 Cattle	24 Peanut Stock & Processing	25 Livestock Slaughter	26	29 Com. Fertilizers; Agricultural Prices; Minn.-Wisc. Milk Price Series	
FEBRUARY		1	2 Cattle	3	4 Celery, Poultry Slaughter	1 Dairy Products	2	3 Field Seed Stock	4 (Crimson Clover Seed (Org.); Celery; Egg Products)	5 Poultry Slaughter	AUGUST
	7	8	9 Crop Production	10 Milk Production	11 Potato Stock	8 Vegetables	9	10 Tall Fescue Seed (Org.)	11 Crop Production	12 Mushrooms; Cattle on Feed; Milk Production	
	14 Cattle on Feed	15	16	17 Naval Stores; Egg Products	18 Cold Storage	13 Com. Apples by Varieties	14	15 Veg. Seed Stock	16 Naval Stores	19 Cold Storage	
	21 Holiday	22 Eggs, Chickens & Turkeys	23	24 Peanut Stock & Processing; Farm Labor	25	22 Eggs, Chickens & Turkeys	23	24 Rice Stock; Timothy Seed; Potatoes & Sweet-potatoes	25 Peanut Stock & Processing; Farm Labor	26 Livestock Slaughter	
	27	28 Com. Fertilizers; Agricultural Prices; Livestock Slaughter				29	30 Dairy Products; Cranberries	31 Com. Fertilizers; Agricultural Prices			
MARCH		1 Dairy Products	2	3 Poultry Slaughter	4 Flowers & Foliage Plants; Celery				1 Egg Products; Poultry Slaughter	2	SEPTEMBER
	7	8 Vegetables	9 Crop Production	10 Milk Production	11 Potato Stock	5 Holiday	6 Celery	7	8	9 Vegetables	
	14 Cattle on Feed	15	16 Sheep & Lamb on Feed	17 Naval Stores; Egg Products; Hatchery Prod. - Annual	18 Hop Stock; Cold Storage; Eggs, Chickens & Turkeys	12 Crop Production	13 Cattle on Feed; Milk Production	14	15 Peanut Stock & Processing - Seal - Ripen	16 Hop Stock	
	21	22 Hogs and Pigs	23 Veg. Seeds	24	25 Peanut Stock; Vegetables; Rice; Cold Storage Holdings	19 Cold Storage; Eggs, Chickens & Turkeys	20 Naval Stores	21 Soybean Stock; Hogs & Pigs	22	23 Honey Production	
	28 Livestock Slaughter	29	30 Dairy Products	31 Com. Fertilizers; Agricultural Prices		26 Livestock Slaughter	27 Peanut Stock & Processing	28	29 Citrus Fruits - Annual	30 Com. Fertilizers; Agricultural Prices; Dairy Products	
APRIL					1 Meat Animals - Prod., Dis., & Income; Wool & Mohair; Poultry Slaughter	3 Egg Products; Poultry Slaughter	4 Celery	5	6 Red Clover Seed; Cherry Production	7 Vegetables	OCTOBER
	18	19 Cattle on Feed; Cold Storage	20 Naval Stores; Eggs, Chickens & Turkeys	21 Grain Stocks; Rice Stock	22	10 Holiday	11 Grain Stocks; Rice Stock	12 Livestock Slaughter; Peanut Stock & Processing	13	14	NOVEMBER
	23	24 Peanut Stock & Processing	25 Livestock Slaughter (Monthly); Livestock Slaughter - Annual	26 Com. Fertilizers - Final	29 Com. Fertilizers; Agricultural Prices; Dairy Products	31 Com. Fertilizers; Agricultural Prices; Dairy Products					
	2	3	4 Field Crops - Prod., Dis., & Value	5 Celery; Milk - Prod., Dis., & Income; Poultry Slaughter	6 Vegetables		1 Com. Fertilizers - Pulling	2	3 Egg Products	4 Celery; Poultry Slaughter	
	9	10 Crop Production	11 Milk Production	12 Naval Stores - Annual; Egg Products	13 Cattle on Feed	7	8 Vegetables	9	10 Crop Production	11 Milk Production	
	16	17	18 Maple Syrup	19 Cold Storage; Eggs, Chickens & Turkeys	20 Naval Stores	14 Cattle on Feed	15 Sheep & Lamb on Feed	16	17 Naval Stores; Egg Products	18 Cold Storage; Eggs, Chickens & Turkeys	
MAY	23	24	25 Peanut Stock & Processing; Com. Fertilizers - By Class	26 Seed Crops - Annual; Farm Labor	27 Livestock Slaughter	21	22	23 Peanut Stock & Processing; Farm Labor; Livestock Slaughter	24 Holiday	25	DECEMBER
	30 Holiday	31 Com. Fertilizers; Dairy Products; Agricultural Prices				28	29	30 Com. Fertilizers; Agricultural Prices; Dairy Products			
JUNE			1	2	3 Poultry Slaughter				1	2 Poultry Slaughter	
	6 Celery	7 Vegetables - Annual	8 Crop Production	9 Milk Production; Egg Products	10		6 Celery	7	8	9 Crop Production	
	13	14 Cattle on Feed	15	16	17 Dairy Products - Annual; Cold Storage	12 Milk Production	13 Potato Stock; Cattle on Feed	14	15	16	
	20 Eggs, Chickens & Turkeys	21 Naval Stores	22	23 Grain Stocks; Cherries - June 15; Hogs & Pigs	24 Peanut Stock & Processing; Vegetables	19 Cold Storage	20 Naval Stores; Eggs, Chickens & Turkeys	21	22 Winter Wheat & Rye Seedling; Hogs & Pigs	23 Peanut Stock & Processing; Vegetables - Pulling; Livestock Slaughter	
	27 Livestock Slaughter	28	29 Agricultural Prices (Monthly); Agricultural Prices - Annual	30 Acorns; Popcorn; Sunflower Seeds; Com. Fertilizers		26 Holiday	27	28	29 Farm Numbers	30 Com. Fertilizers; Agricultural Prices; Dairy Products; Egg Products	

Statistical Reporting Service ★ U.S. Department of Agriculture ★ Washington, D.C.

Copies of these reports are available free and mailing lists are maintained for regular distribution. Send requests to: Crop Reporting Board, Statistical Reporting Service, U.S. Department of Agriculture, Washington, D.C. 20250

PASSENGER MOTOR VEHICLES

The 1978 Budget Estimates propose the replacement of three passenger motor vehicles. All passenger motor vehicles of the agency are located in the field at the various state offices. These vehicles, as well as those obtained for use throughout the year from the General Services Administration, are used by professional statisticians, supervisory enumerators, and other field employees in conducting enumerative surveys and related work pertinent to the preparation of the crop and livestock estimates. The use of common carriers in this type of work is not satisfactory in that it is frequently necessary to visit during a short period of time numerous farms and various establishments within a specified geographic area.

The three sedans proposed for replacement during 1978 are necessary to meet the transportation requirements inherent in carrying out the agency's program. The vehicles proposed to be replaced will have passed the minimum replacement standards of 6 years of age or 60,000 miles prescribed by the General Services Administration.

Age and mileage data for passenger motor vehicles on hand as of June 30, 1976, are indicated below:

Age Data			Mileage Data		
<u>Age-Year Model</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>	<u>Lifetime Mileage (thousands)</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>
1970	2	14	80-100	1	7
1971	2	14	60-80	1	7
1972	2	14	40-60	4	29
1973	4	29	20-40	4	29
1975	3	21	Under 20	4	29
1976	1	7	Total	<u>14</u>	<u>100</u> a/
Total	<u>14</u>	<u>100</u> a/			

a/ Figures do not add because of rounding.

ECONOMIC RESEARCH SERVICE

Purpose Statement

The Economic Research Service was established by Secretary's Memorandum No. 1446, Supplement No. 1, of April 3, 1961, under Reorganization Plan No. 2 of 1953 and other authorities.

The mission of the Economic Research Service is to develop and disseminate economic information for use by public and private decisionmakers concerned with the allocation and use of resources in agriculture and rural America. In carrying out this work the Service:

- Maintains estimates of current resource use, output, and distribution of food and fiber.
- Identifies the interrelationships of economic forces affecting resource use, production and distribution of food and fiber.
- Develops short-term forecasts and long-range projections of resource use, production and distribution of food and fiber for both probable and possible future events.
- Evaluates the performance of the food and fiber sector in meeting the needs and wants of consumers and overall goals of society concerning such matters as resource ownership and use, income and income distribution, and quality of life.
- Identifies probable and possible structural adjustments in the food and fiber sector and rural America and evaluates their impact on consumers, and overall goals of society.
- Maintains current information on the principal social and economic factors affecting life in nonmetropolitan areas and identifies and evaluates alternative public and private actions which impact on these areas.
- Provides direct assistance and coordinates the USDA's overall program to aid agricultural development in lower income countries.
- Disseminates economic information on a timely basis for current use by decisionmakers in agriculture and rural areas.

The Service functions through a central office in Washington, D. C. and a small staff in each of 35 States, principally at the Land Grant Colleges and Universities. Much of the research is carried on in cooperation with State Agricultural Experiment Stations. As of October 31, 1976, the Service had 1,113 employees of which 1,007 were permanent full-time.

Available Funds and Man-Years
1976 and Estimated, 1977 and 1978

Item	Actual		Estimated		Budget Estimate	
	1976		Available, 1977		1978	
	Amount	Man-Years	Amount	Man-Years	Amount	Man-Years
Economic Research Service	\$25,781,769	873	\$27,274,000	878	\$29,405,000	895
Obligations under other						
USDA appropriations:						
Soil Conservation						
Service:						
Watershed planning	12,801	1	37,000	1	31,000	1
Watershed and flood prevention operations	92,365	7	166,000	7	158,000	7
Resource conservation and development	111,413	5	147,000	5	131,000	5
River basin surveys and investigations	2,454,665	84	2,583,000	84	2,380,000	84
Various USDA agencies:						
Great Plains Council	27,376	1	31,000	1	31,000	1
Prime Land Use Seminar	44,000	1	--	--	--	--
Agricultural Research						
Service: Boll weevil eradication program	50,000	2	--	--	--	--
Food and Nutrition						
Service: Evaluation of national school lunch program	160,000	3	150,000	3	150,000	3
Food and Nutrition						
Service: Study of income, demographic, and food stamp participation data on migrant worker and farm wage worker households	30,000	1	--	--	--	--
Extension Service:						
Analyze and interpret Expanded food and nutrition education program data obtained through the programs information reporting system	42,500	1	45,000	1	45,000	1
Miscellaneous reimbursements	145,288	5	674,000	10	352,000	3
Total, Other USDA Appropriations	3,170,408	111	3,833,000	112	3,278,000	105
Total, Agriculture Appropriations	28,952,177	984	31,107,000	985	32,683,000	995
Other Federal Funds	13,255,847	153	17,681,000	151	17,898,000	158
Non-Federal Funds	63,358	1	15,000	1	15,000	1
Total, Economic Research Service	42,271,382	1,138	48,803,000	1,142	50,596,000	1,159

Item	Actual		Estimated		Budget Estimate	
	1976		: Available, 1977		1978	
	: Amount	: Years	: Amount	: Years	: Amount	: Years

End-of-Year Employment:	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
Permanent full-time.....	1,023	1,030	1,048
Other.....	105	95	95
Total.....	<u>1,128</u>	<u>1,125</u>	<u>1,143</u>

Economic Research Service

Appropriation Act, 1977.....	\$26,080,000
Budget Estimate, 1978.....	29,405,000
Increase in Appropriation.....	<u>+3,325,000</u>

Adjustments in 1977

Appropriation Act, 1977.....	\$26,080,000	
1977 Supplemental Appropriation for pay costs.....	<u>+1,194,000</u>	
Adjusted base for 1978.....		27,274,000
Budget estimate, 1978.....		29,405,000
Increase over adjusted 1977.....		<u>+2,131,000</u>

SUMMARY OF INCREASES
(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increase</u>	<u>1978</u> <u>Estimate</u>
GSA space.....	\$858,000	+\$308,000	\$1,166,000
Research and analysis in support of Federal credit programs affecting rural areas.....	350,000	+300,000	650,000
Assessment of food, nutrition and income assistance programs and program alternatives.....	220,000	+350,000	570,000
Pesticide impact assessment.....	160,000	+720,000	880,000
Other operating costs:			
Increased pay costs.....	1,194,000	+66,000	1,260,000
Working Capital Fund Services.....	(1,238,000)	+125,000	125,000
Other increased support costs.....	--	+262,000	262,000
All other.....	<u>24,492,000</u>	--	<u>24,492,000</u>
Total available.....	<u>27,274,000</u>	<u>+2,131,000</u>	<u>29,405,000</u>

PROJECT STATEMENT
(On basis of adjusted appropriation)

Project	1976	1977 (estimated)	Increase	1978 (estimated)
1. Economic Analysis : and Research.....	\$25,035,601	\$27,274,000	+\$2,131,000	\$29,405,000
Unobligated balance...	746,168	--	--	--
Total available or estimate.....	25,781,769	27,274,000	+2,131,000	29,405,000
Transfer from OPE.....	-86,000	--		
Transfer from ASCS.....	-53,769	--		
Proposed supplemental : for pay increase :				
costs.....	--	-1,194,000		
Total appropriation...	<u>25,642,000</u>	<u>26,080,000</u>		

a/
Excludes proposed supplemental of \$720,000 for pesticide impact assessment.

EXPLANATION OF PROGRAM

The basic mission of the Economic Research Service is to conduct economic research and service relating to agricultural production, marketing, and distribution, and to analyze the supply and demand for farm products in foreign countries and their

effect on prospects for U. S. exports as authorized by the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627), 7 U.S.C. 1761, and other laws.

In carrying out this work, the Economic Research Service develops and carries out a program of economic research designed to provide economic intelligence for the USDA and other Federal decisionmakers, farmers and individuals in related industries and the general public. The findings of this research are made available to these users through research reports and through economic outlook and situation reports on major commodities, the national economy, and the international economy.

The program of the Economic Research Service is divided into two broad areas: (1) Food and Fiber Economics, and (2) Resource and Development Economics. The first area focuses on the entire agricultural industry from farmer to consumer. It contains three divisions: (1) Commodity Economics Division, (2) National Economic Analysis Division, and (3) Foreign Demand and Competition Division.

The Commodity Economics Division carries out a national program of economic research and analysis, statistical programs, and other work relating to the production and marketing of farm commodities. It includes evaluations of the organization and performance of major commodity subsectors; costs and returns to farmers and marketers; situation and outlook; commodity projections; price spreads; and analysis of U. S. farm commodity programs.

The National Economic Analysis Division deals with the entire agricultural sector and centers around the more aggregative issues cutting across commodity lines. This includes consumer demand analysis; agricultural finance; farm inputs; pricing, policy, and program analysis; structure and adjustments in the agricultural sector long-run projections; and overall performance measures in agriculture such as farm income, the marketing bill, and others.

The Foreign Demand and Competition Division focuses on worldwide supply and demand conditions; the impact of U.S. and foreign policies on world farm trade; and publishes information that traders, government officials, and trade negotiators need to tap world markets.

The second area, Resource and Development Economics, includes the work of three divisions: (1) Natural Resource Economics Division, (2) Economic Development Division, and (3) Foreign Development Division.

The Natural Resource Economics Division centers its research on the use, conservation, development, and control of natural resources and their contribution to local, regional, and national economic growth. Analyses of environmental issues is an important element of this Division's responsibility.

The Economic Development Division maintains current information on the principal social and economic factors affecting life in nonmetropolitan areas and identifies and evaluates alternative public and private actions which impact on these areas.

The Foreign Development Division provides direct assistance and coordinates the USDA's overall program to aid agricultural development in lower income countries. The Agency for International Development provides most of the funds for the operation of this division.

JUSTIFICATION OF INCREASES AND DECREASES

(1) An increase of \$2,131,000 for economic analysis and research consisting of:

- (a) An increase of \$308,000 for GSA space rental costs (Pursuant to P.L. 92-313.)
- (b) An increase of \$66,000 for increases in pay costs effective in FY 1977.

(c) An increase of \$125,000 for Working Capital Fund services.

(d) An increase of \$262,000 for other support costs.

Need for Increase. Over the past few years costs of carrying out the various programs of ERS have gradually increased. This request will partially restore those costs to maintain the programs, such as the annual economic survey, at a reasonable level.

(e) An increase of \$300,000 for research and analysis in support of Federal credit programs affecting rural areas (\$350,000 available in 1977).

Need for Increase. The overall objective of this proposal is to provide more adequate research support for decisions which policymakers and program managers must make in designing and carrying out Federal credit programs affecting rural areas. Specific objectives are:

1. Develop and keep current a comprehensive description of the rural capital situation, and analyze rural capital markets and the forces affecting them.
2. Examine the impact of governmental programs in providing funds and facilitating private fund flows, and analyze alternative Federal policies and programs for affecting the availability of capital in rural areas.

Resources for this program are as follows:

	1977 Base	Redirection	Budget Increase	Total Resources FY 1978
Budget authority (\$000)	\$250	\$100	\$300	\$650
Total man-years	10	5	5	20
Scientist man-years	8	3	4	15
Full-time permanent positions	10	5	5	20

Estimated FY 1978 expenditures by major cost component are as follows:

-- salaries and benefits (\$000) \$445
 -- contracts and ADP (\$000) 145
 -- travel and other support..... 60

Farm production is becoming increasingly specialized, and farmers rely more and more on the purchase of nonfarm inputs. Land values have increased rapidly. Further, this land increasingly must be combined with large amounts of capital for irrigation, drainage, land clearing, and similar investments in order to make it productive. Increasing concern about the quality of the environment has led to needs for pollution abatement and waste management facilities for dairies, feed lots, and similar enterprises. Federal and State income, inheritance and real estate taxes, as well as credit programs, have major impacts on the income and wealth positions of farm operators. These and related factors are causing increasing concern over the adequacy of credit supplies for agriculture.

Through the Rural Development Act of 1972 and other policy instruments, the Federal Government has adopted a policy of encouraging the development of nonfarm activities in rural areas. Insuring adequate credit for both the public and private sector is

a vital element in effectively implementing this policy. This development, coupled with rising environmental concerns and desires for better government services, has increased the needs for capital funds to support pollution abatement facilities schools and other major community facilities. Development also means new and improved housing. Adequate mortgage credit is basic to housing improvement. Recent ERS studies have shown rural families often cannot obtain private mortgage credit on as favorable terms as have their urban counterparts.

To meet these concerns, the Federal Government has sharply expanded its lending programs and developed new ones. USDA credit programs (excluding commodity loans) are estimated to total more than 11 billion dollars in FY 1973, up from less than a billion in 1969. In addition, other programs have been proposed that would alter the role of major financial institutions and other government agencies in supplying funds to rural America.

Despite these apparent credit needs and the sharp increase in USDA lending programs, there has been no adequate base of research to allow determination of farm and rural area needs (demand) for credit nor evaluation of alternative credit policies and delivery programs. At the broadest level, we do not know the relationship of credit supplies to the achievement of such objectives as maintaining the family farm and enhancing business development in rural areas.

The following issues illustrate the types of applied policy questions which arise from these changes, and which need analysis:

- * To what extent is a shortage of capital the crucial factor hampering attainment of national goals in housing, developing viable family farms, increasing the supply of recreation facilities, promoting resource conservation and other Federal goals?
- * What are the advantages and shortcomings of a Federal Rural Development Bank System, similar to the Federal Land Bank System, to support rural development activities? This has been a frequent proposal in recent years.
- * Why is the FmHA program in such demand in some States and not in other similar ones? FmHA officials observe that the program goes unusually well in some States, and State officials tell them that they do as much as 80 percent of the home lending business. However, they have no independent statistics to support these statements, and they do not know the causes of the variation. With better information, they could do a more effective job of allocating available funds.
- * What factors account for the fact that the outstanding portfolio of the Federal Land Banks is double that of insurance companies, whereas six years ago the two were about equal? What implications does this have for future agricultural credit programs?
- * To what extent do credit programs support or conflict with objectives of other Federal programs to influence incomes, provide low cost food supplies, insure wise land and water use, etc? What are their implications for the efficiency of our economic system?
- * What are the implications of alternative credit policies for the future structure of agriculture and for the family farm as part of that structure?
- * What are the impacts of various terms and prices of credit on the values of land and other resources? On the distribution of wealth?

- * How do various forms of subsidized credit compare with grants, cost-sharing, income tax deductions, property tax relief or public acquisition for achieving specific government objectives concerning resource use, income distribution and economic growth?

The resources requested in this proposal will permit an analysis of only a few questions of this type each year. Program agencies would be consulted in selecting issues for any given year.

Plan of Work. The proposed research program has two major components: Development of the necessary background of data and analysis of rural credit markets to permit accurate policy analysis and analysis to aid in the resolution of specific policy and program issues. These two components are closely interrelated, and neither can be effective without the other. Identification of specific policy issues will provide guidance for priorities in research on underlying structure: research on underlying structure makes possible analyses of specific issues. Hence, development of these two areas must proceed simultaneously.

Initially, ERS would undertake a series of conferences with policymakers throughout USDA to identify a list of issues which should be addressed in FY 1978. Such meetings have taken place during the development of this proposal but the specific issues and their relative importance will likely change between now and the beginning of FY 1978. The intent would be to develop a list of issues which are presently important and which represent the type of issues faced by these individuals. Some of these issues can be expected to be amenable to economic analysis, given our present state of knowledge. From among these, the highest priority issues, consistent with available resources, will be selected for analysis during FY 1978. A great many of the issues, however, will not be amenable to immediate analysis, because they will require data or analytical background which is not presently available. Data and analysis needs for these issues will be identified and these needs will be used for detailed planning of the data collection and analysis portion of the program.

It is anticipated that this process would be repeated annually to assure relevancy of the analysis.

The second part of the overall proposal consists of data development and analyses of capital markets. Following is a general outline of the program:

1. Data Development for Current Supply and Demand Estimates of Credit

Some situation and outlook information is available for agricultural credit used by farmers; very little is available for funds used for off-farm purposes in rural areas. A situation and outlook report, the "Agricultural Finance Outlook," is published once a year with the existing resources. This report provides information on flows of loan funds for the farm production sector. Work currently underway on the measurement and evaluation of returns to equity capital and the incentives for equity investment in agricultural production would be expanded to include analysis by type of farm.

During FY 1978 data from the 1975 Census of Agriculture will be utilized to evaluate the changes occurring in the capital and financial structure of the sector.

Subsequent to FY 1978, an exploratory study of successful and non-successful credit applicants will be initiated in conjunction with a major lending institution, to determine how well that institution is meeting the credit requests of farm operators.

In the nonagricultural area, the primary initial thrust will be on credit for rural housing. Quarterly data on bank loan portfolios available from the Federal Reserve System and similar material on savings and loans from the Federal Home Loan Bank will be analyzed, together with data from the annual Housing Survey sponsored by HUD. These data will be analyzed to provide a current picture of lending for housing purposes in rural areas. A parallel, but more restricted effort will be undertaken to obtain and analyze data on loans for business and industrial purposes in rural areas and for land and water improvements relating to agricultural production and pollution abatement.

2. Analysis of Rural Credit Markets and the Sources and Uses of Capital

ERS has a long history of research on farm credit, and has developed a significant amount of knowledge about rural credit markets and the sources and uses of credit used by farmers. However, this information needs to be broadened to provide a better understanding of capital sources in agriculture. Work during FY 1978 would concentrate on estimating market shares for real estate and non-real estate lenders. Work in FY 1979 would focus on examination of the effect of the size of a financial institution on its willingness to take risks.

Work in housing during FY 1978 and FY 1979 would concentrate on evaluating the importance of inadequacies in the markets for housing credit. The study would attempt to determine the extent to which observed higher credit costs in rural areas are due to valid reasons of economic costs, such as risk differentials for differences in costs of servicing loans, and to what extent they are due to market imperfections. The major imperfections may include lack of smooth mechanisms for transferring money efficiently from points of excess supply to points of excess demand, lack of secondary markets, governmental policies, or simply the lack of certain institutions in rural areas.

This proposed increase also would allow for a small effort to obtain and synthesize the results of other research bearing on business and industrial loans in rural areas to make such data accessible for policy analysis within USDA. A limited effort also would be instituted to evaluate alternative arrangements to stimulate investment in land and water resource improvements (e.g., Federal credit programs, cost-sharing and income tax credits).

Funds and man-years by major components of the study are estimated as follows:

	Data Development And Market Analysis		Analyses of Specific Policy Issues	
	Man-Years	Funds	Man-Years	Funds
Farms and related business	7	\$225	7	\$160
Conservation and improvement of natural resources	1	50	1	30
Non-farm business and local governments	1	75	1	30
Housing	1	50	1	30
Total	10	400	10	250

(f) An increase of \$350,000 for assessment of food, nutrition and income assistance programs and program alternatives (\$220,000 available in 1977).

Need for Increase. This proposal delineates economic research to provide more in-depth analysis of the USDA's food and nutrition and related income-assistance programs. These resources will provide a technical staff to maintain a minimum level of basic economic analysis for these programs

analogous to the economic research support ERS maintains for commercial agricultural programs. The objectives of this proposal are:

1. Determine the benefits that alternative food and nutrition programs provide participants. Identify eligible non-participants and determine economic and dietary benefits that alternative food and nutrition programs would supply them.
2. Determine the effects of such programs on the demand and price of food; on business activities throughout the economy including employment, and on commercial agriculture program.
3. Identify and evaluate tradeoffs among food programs and other income support programs as they affect welfare recipients, Federal Government expenditures, and rural development. Determine the implications of modifying existing food programs or replacing food and other current income-tested programs with a broad income maintenance package on welfare recipients and rural areas.

Resources for this program are as follows:

	<u>1977 Base</u>	<u>Redi- rection</u>	<u>Budget Increase</u>	<u>Total Resources FY 1978</u>
Budget authority (\$000)	20	200	350	570
Total man-years	1	5	7	13
Scientist man-years	1	4	5	10
Full-time permanent positions	1	5	7	13

Estimated FY 1978 expenditures by major cost component are as follows:

-- salaries and benefits (\$000)	\$300
-- contracts and ADP (\$000)	200
-- travel and other support (\$000)	70

The estimated \$8.1 billion outlays for food programs in FY 1977 make them the largest single income assistance program excluding Social Security and unemployment programs. Those responsible for allocating scarce public sector resources to food and other income assistance programs need information on the impact of these programs, their interaction, and possible alternatives.

Most ERS food and nutrition research currently concentrates on four studies. These include: (1) the impact of food programs on the economy, (2) the food consumption behavior of participating farm households, (3) identification of food stamp participants among the hired farm labor force, and (4) eligibility for and participation in child nutrition programs. This research represents a relatively small commitment to analyzing the impact of food and nutrition assistance programs.

FNS also conducts evaluation activities including: (1) assessment of economics of scale in food procurement systems of the school food programs, (2) cost-benefit analysis of the School Breakfast Program, (3) updating of the food stamp program evaluation submitted to the Congress in response to Senate Resolution 53 in June 1975, and (4) use of the transfer income model to cost out alternative food stamp program policy alternatives. These are basically program evaluation studies. Research efforts need to be expanded to provide more in-depth analyses of Federal food and nutrition programs to address major policy questions.

Plan of Work. Data will be assembled from the Food and Nutrition Service, Agricultural Research Service, Bureau of Census, Statistical Reporting Service, Internal Revenue Service, and other Agencies. A primary data source for analysis will be the Agriculture Research Service's national food consumption survey.

Objective 1: Impacts on Participants

- a. Analyze the factors which determine whether those eligible participate in food programs.
- b. Determine how specific changes in food program regulations affect the number and type of participant households.
- c. Determine the benefits of alternative food and nutrition programs to actual and potential target populations, placing emphasis on changes in food consumption and dietary patterns.

Determining the impacts on food program participants will involve a series of steps, each of which is a major research effort. The first step is to determine eligibility for food programs--how many households and persons are eligible for food stamps, free and reduced-price school lunch, and other food programs under present regulations and proposed alternatives. This will involve analysis of data on the characteristics of households making up the population. These household characteristics will be projected over time so that eligibility can be determined for at least a 5-year period needed for F&NS impact assessment.

The second step will be to analyze the factors determining participation of eligible households in food programs. Since only a portion of nominally-eligible households participate, it is crucial to have good estimators of actual participation rates and how they change over time.

With information on eligibility and participation under various program alternatives, impacts in terms of costs and changes in diets will be determined. This requires detailed information on the food purchases or consumption of participating and nonparticipating households in similar economic circumstances. ERS and ARS will work jointly to determine the effect of food aid programs on dietary adequacy.

In FY 1978, the analysis will emphasize participation in food stamp programs. Participation rates of various subgroups (income levels, family sizes, elderly, etc.) will be analyzed to determine which groups are most likely to participate.

Costs will be projected for at least 5 years for alternative programs under differing economic conditions (price levels, unemployment, income changes).

In FY 1979, when data from the ARS Food Consumption Survey begin to become available, analysis of the impacts on diets of participants in the food stamp program will be undertaken, in cooperation with ARS and FNS. Detailed plans including computer software will be developed during FY 1978.

Objective 2: Effects on Demand and Prices

- a. Determine increases in domestic demand for particular food and food groups resulting from food and nutrition programs.
- b. Determine the impact of such programs on food prices and implications for types and costs of farm programs. Determine how changes in other departmental programs may affect costs of food programs.
- c. Determine the effects of these programs on general economic activity including employment.

With estimates of the change in food purchases due to participation in food programs, the impacts on the overall food economy including demand, prices, employment and income will be analyzed.

Impacts on the demand for and prices of specific food groups because of the operation of the food stamp program will be estimated during FY 1979 when the ARS Food Consumption Survey data become available.

The effects of food aid programs on the operations of farm price and income programs, export policies, and other USDA programs will be analyzed beginning in FY 1979, as well as the effects of those programs on the food aid programs.

Objective 3: Relation to Other Income Support Programs

- a. Determine the impact of changes in income, household composition and other factors on participation in food and nutrition programs and other income-tested programs.
- b. Estimate benefit levels for Federal, State, and local income support programs for representative families in rural and urban areas using national survey data, in conjunction with budgeting techniques. These estimates will provide an initial basis for analyzing the effects of program changes, increased earnings, etc., on total benefit levels, implicit tax rates on earned income, and disposable income.
- c. Analyze impacts of modifying existing income support programs or replacing existing programs with broad based income maintenance plans using data from b. (above) and appropriate simulation analyses. Impacts will include the distribution of program benefits, identification of primary beneficiaries, and program costs.

Alternative family profiles (e.g., female household head with three dependent children under 18 years old) representing typical U.S. family structure will be developed. In FY 1978, Federal, State, and local income support programs will be identified for a random selection of rural and urban counties throughout the United States. Budgeting techniques will then be used to estimate benefit levels for those programs in which each representative family profile could participate. These estimates will provide the basis in FY 1979 for analyzing the effects of program changes, increased earnings, etc., on total benefit levels, implicit tax rates on earned income, and disposable income. Implications will then be made about impacts (1) on work effort and welfare recipient well-being and (2) on various regional and residential areas.

The proposed work will include analysis of impacts of modifying existing income support programs or replacing existing programs with broad based income maintenance plans using secondary data and appropriate simulation analyses. Impacts will include the distribution of program benefits, identification of primary beneficiaries, and program costs. In FY 1978, this activity will involve evaluation of alternative secondary data sources. In FY 1979, estimates of the impacts of alternative income support programs and modifications of existing programs on recipients and on local economics will be made.

(g) An increase of \$720,000 for pesticide impact assessment. (\$160,000 available in 1977).

Need for Increase. The pesticide impact assessment program will be implemented as a coordinated effort by ARS, CSRS, ES, ERS, and FS. The objectives of the overall USDA-pesticide impact assessment program are to:

Provide the most objective and accurate data available for defining and evaluating benefits and risks of selected pesticides having critical agricultural or forestry uses, and

Respond to all proposed regulatory actions issued by EPA with at least a minimum technical review of available data.

The major responsibility of ERS is to identify and measure the economic and social consequences of continuing or discontinuing the use of selected pesticides for specific purposes. This will involve estimating the value of a pesticide in the agricultural production process in view of the existence of alternative pesticides or pest control options. The effect of discontinuing a pesticide use on the production process will be measured in terms of changes in cost of production and farm income for typical situations. Additionally, in a broader context the economic implications of discontinuing pesticide use will include effects on national farm income, consumer prices, and foreign exchange earnings. Since the use of particular pesticides are important regionally, efforts will be made to evaluate localized or regional effects of restrictive actions on pesticide use and the secondary implication for suppliers of inputs and services.

Plan of work: ERS will be principally responsible for developing information on pesticide use, availability of supplies of selected pesticides, prices, and other economic data and coefficients required for the evaluations.

In conducting the economic evaluations, ERS will be heavily dependent upon information and analyses developed by the participating agencies. Of particular importance will be data on crop yields and animal production with and without the use of the pesticide in question and with the use of alternative pesticides or other pest control options.

ERS will work cooperatively with the participating agencies in identifying the pesticides and uses to be studied and the geographical areas to be considered. Further, ERS will participate as a member of the Assessment Teams in identifying the biological and physical information required for analysis.

ERS expects to have the equivalent of 12 senior level economists and 6 technical and clerical support staff engaged in the program when it is at full strength in October of 1977.

A supplemental of \$720,000 is also proposed for FY 1977 for this program.

STATUS OF PROGRAM

The Economic Research Service has been mandated to develop and disseminate economic information pertaining to agriculture and rural America, and to coordinate USDA training and technical assistance programs for developing countries. Research programs serving the first goal cover many areas--farm income and other measures of economic performance and well-being, agricultural production and marketing efficiency, farm exports and agricultural trade policies, economic development of rural areas, natural resource development and environmental quality, human nutrition, and consumer services. Foreign agricultural development programs include training foreign participants and providing on-site technical aid to developing nations.

RECENT EXAMPLES OF ACTIVITIES AND PROGRESS

ANALYSIS OF FARM PROGRAMS AND POLICIES

This research program measures changes in farm income and the financial structure of the farm sector and analyzes the impact of proposed Government programs and policies on farm income, prices, and production. Historic trends and changes in U.S. agriculture are also analyzed.

Improving Farm Income Estimates: An annual farm expenditure survey was instituted to gather data on farm income, particularly for farmers' production expenses. Information collected through this survey will improve the quality and relevancy of farm income estimating methods procedures and concepts.

Efforts have also been intensified to improve forecasts of farm income. Forecasts are reappraised more often, particularly when crop output and export conditions change and when turn-arounds appear imminent for major livestock items. Also, the forecasting includes appraisal of more alternative conditions which could affect gross farm income, production expenses, and resulting net farm income.

Reserve Grain Stocks: Previous research had suggested that a world food and feed grain reserve stock adequate to cover most shortfalls would need to be about 56-80 million tons, and cost \$800 million to \$1.2 billion to maintain.

Results from a reserve stock simulation model completed in FY 1976 suggest that considerably smaller stocks would be needed if the market were relied upon to help allocate supplies. For example, if the wheat price was allowed to vary over a \$1.50-bushel range between accumulation and release, the size of the wheat reserve stock could be halved worldwide. By letting the price rise, demand would fall and moderate shortages would be handled in the marketplace. The cost would average about \$400 million, with a profit accruing to the stocks agency in some years and costs exceeding \$2 billion in others.

Results from the reserve stock simulation model were used by the House Budget and Agriculture Committees, the CBO and by various Congressional staffs. The model and results were evaluated and quoted extensively in a report prepared by the RAND Corporation for CIEP, and in a GAO report.

In cooperation with Operations Research Society of America and The Institute of Management Science, ERS organized a research conference on grain reserves. The conference was called to determine what research is being done or should be done particularly in light of the concern over instability in food supplies and prices. Proceedings of the conference were published by ERS and the National Science Foundation.

Sugar Policies and Industry Structure: Two special analyses were carried out in response to termination of the U.S. Sugar Act and record-high sugar prices. One examined the structure and pricing practices of the U.S. sugar industry in relation to possible causes of skyrocketing sugar prices in 1974. The other focused on likely levels of domestic and world sugar supplies and prices to 1980 with the U.S. as part of the world free market.

The analyses concluded that while a number of events worked in concert to exert bullish pressure on the world sugar market, the primary cause of high U.S. prices was extremely tight world sugar supplies and resulting high world prices. U.S. sugar market performance was judged reasonably good with the exception of the use of basing point pricing and evidence of possible discriminatory pricing in some regions.

Reports from both analyses were used extensively by several Government agencies and the House Agriculture Committee.

Agricultural History: ERS assisted in planning the 1975 and 1976 Bicentennial Yearbooks of Agriculture, and wrote about 20 articles for USDA and other publications relating to the Bicentennial. The chronological chart covering American agriculture, 1776-1976, has been revised for publication. A short History of Agricultural Adjustment, 1933-75, was issued. It is being used in universities and is being widely circulated by ASCS.

Upcoming Research

A review of basic farm income concepts will be completed in FY 77. Alternative conceptual frameworks will be examined for both their use in forecasting and for their relevance to the national income accounts. Much of the effort in estimating farm income will be automated in FY 1977 with significant savings in manual effort and a greater flexibility in improving estimates. Historical analyses to be undertaken include a history of food marketing, including direct farm marketing, minority contributions to agriculture, and a history of farm transportation. Utilizing analytical models that have been developed, ERS will provide analysis of farm program proposals as input into the development of new farm legislation.

ANALYSIS OF FARM STRUCTURE, RESOURCE USE AND PRODUCTIVITY

Research focuses on current farm organization and costs and returns of alternative farm operations, practices, and technology. Analyses also are made of aggregate input requirements and supply, efficiency of resource use in livestock production, and forces shaping the future economic configurations of U.S. agriculture.

Energy Use and Conservation: ERS has prepared a comprehensive energy data base containing estimates of energy use by commodity, State, operation, fuel type, and month. FEA will use preliminary results for assisting States in preparing energy conservation plans. About 2 percent of the Nation's energy is used directly for farm production. An additional 1 percent is used in the manufacture and transport of farm fertilizers and pesticides. Work is well underway on an assessment of the energy used in processing feed.

Energy conservation guidebooks for field crop, dairy, poultry, other livestock, fruit and vegetable producers are complete and drafts have been submitted to FEA for printing.

Tobacco Research: Rising production costs and limited potential for mechanization have caused concern about the future of burley tobacco farming. A study of the viability of burley farming was initiated in FY 1976 as planned, and will be completed in FY 77.

Cost of Production: Reports were issued on the costs of producing major crops and milk in 1974. These studies, provide for the first time production costs covering major crops and all production regions using consistent procedures and for a specific time period. Plans are to complete tabulation of survey data, develop cost estimates, and issue a report based on a March 1976 survey, on the cost of producing meat animals. Nationwide surveys of fruit and vegetable, burley tobacco, and sugar beet producers are planned for March 1977.

Upcoming Research

A number of interrelated activities will be undertaken in the area of energy research. This will include estimates of energy use in agricultural production in 1980, 1985 and 1990 under alternative scenarios; forecasts of 1977 farm energy use based on planting intentions; an analysis of energy substitution alternatives in agriculture such as using more fertilizer versus using more land; and estimates of energy used in food marketing. Improvement will be made in the estimates of fertilizer supply and demand permitting faster identification of potential shortage situations.

In cooperation with ARS, ERS will assess several agriculturally related technologies. These will include: (1) Costs and consequences of the use of solar energy in farm production and food processing; (2) conversion of farm and forestry wastes into usable energy products; (3) completion of an assessment of national impacts of four-wheel drive tractors on labor, energy, and farming resources; and (4) automation in food retailing.

Since forage economics have been little studied, it is difficult to predict the effects on livestock production costs of pressures on forage land and forage supplies. A forage subsector study will begin in FY 77 with compilation of basic data and identification of major economic problem areas completed during the first year.

ANALYSIS AND FORECASTS OF SUPPLY, DEMAND, AND PRICES

This part of the program provides public officials, farmers, consumers and other market interests concerned with the production, marketing, and pricing of food and fiber with short-term forecasts of supply, demand, and prices for major farm commodities. Other program output includes evaluating technological and economic impacts on commodity markets, simulating behavioral and structural supply and demand relationships for farm commodities, and making alternative projections of future agricultural conditions.

Current Situation and Outlook: During the past year, 56 commodity situation and outlook reports, 4 issues of the National Food Situation, along with periodic Agricultural Demand and Supply Estimates provided widely publicized outlook information. Early in FY 1976 ERS began publication of the monthly "Agricultural Outlook", which reports aggregate analysis for the general and agricultural economy, and digests and updates developments in commodity production and trade.

Forecast Evaluation: A method has been developed to form a quick-access evaluation system for key ERS forecasts. ERS can now evaluate selected forecasts each quarter. Currently the forecasts being evaluated are major crop and livestock prices. Coverage will be expanded to include all ERS forecasts.

ANALYSIS OF MARKET STRUCTURE AND PERFORMANCE

About two-thirds of consumers' total food expenditures go for services performed by the food distribution industry. ERS research charts the changes in this industry, what causes them, and their impacts. Marketing analysis explores farm-retail price spreads, marketing costs and profits, and the farmer share of the consumer food dollar. It also assists producers and distributors in taking advantage of domestic marketing opportunities and analyzes the road to market by evaluating how well the transportation system serves the farmer.

Marketing Margins: As a major research element of this program, the ERS staff develops and maintains current information on the performance of the food marketing system, including farm-retail price spreads, marketing costs, food prices, and the farmer's share of the consumer food dollar. This research undergirds many critical public policy decisions on the farm food system. In addition to a monthly price spreads release and annual report to Congress, data are now carried in the monthly *Agricultural Outlook* magazine.

Cost of Convenience Foods: Preliminary results from a comprehensive study of convenience foods were published in FY 1976. Data comparing yield per serving, preparation time, energy expenditures as well as quality comparisons for 33 "new generation" convenience food forms and their respective home-prepared counterparts were obtained from ARS. Preliminary results indicate that most of the "new generation" convenience foods were more expensive than those prepared from basic ingredients. However, 16 single ingredient vegetable convenience products in the frozen and canned form were cheaper than their fresh or home-prepared counterparts.

Acquisition of Performance Data: The data base for identifying and evaluating the performance of the input of agriculture and processing industries was expanded and improved using the \$300,000 increase provided by Congress as well as additional resources. Special tabulations of 1972 Census data were obtained on the level of concentration in food retailing for all SMSA's. An agreement was executed to obtain special tabulations of 1972 Census data on food wholesaling showing structure and organization of this market, levels of concentration, and selected measures of performance and plans were developed for a more detailed survey of food wholesalers. Plans are being developed for a survey of food service establishments. On the input side, attention has focused on the fertilizer industry. A survey enumerated during July-September, 1976, obtained performance data on the nitrogen sector of the industry.

Livestock transportation: The last of three studies requested by the livestock industry and truckers was completed. There was little evidence that interstate regulation of livestock trucking could be expected to improve economic performance of for-hire truckers for the livestock industry.

Rail Line Abandonments: Work on the impact of rail line abandonments was completed. In brief, the adverse impacts were borne principally by firms marketing grain by rail to domestic users. Impacts on farmers were quite modest; total marketing costs for grain and fertilizer increased only 0.1 percent.

User Charges for Navigable Waterways: The impact of user charges for operating navigable waterways was assessed. The probable level of user charges was found to be minor in relation to variation over time in water transport rates, and also to cause only nominal changes in grain and fertilizer marketing patterns and costs.

Data Base for Rural Transportation: Development work on a data base for rural transportation has progressed. The general objective is to bring together such scattered information as exists and make this more readily available. Relatively satisfactory data are now available for rail and barge movements. Data on supply and demand for agricultural trucking are less adequate.

Future Protein Supplies: In cooperation with NSF and MIT, ERS projected future sources and supplies of protein. The U.S. will have an ample supply of protein from conventional sources to the year 2000 and perhaps beyond; the cost of protein from these sources, however, is uncertain. Research is needed on how to better utilize present protein sources and how to develop new ones.

Reporting Produce Contract Terms: After studying grower-processor contracts for six representative processing vegetables, ERS advised AMS that too little information on contract prices is disseminated to ensure economically efficient operation of contract markets, and that a comprehensive system of reports on contract prices and non-price terms is needed. ERS also made recommendations on the design of an adequate reporting system.

Cash Grain Pricing: Analysis of data on terms of trade, location of buyers and sellers, and information sources used by traders collected from 2,600 establishments and from interviews provide a strong factual basis for USDA decisions about future directions of its grain price reporting system. A report will be published in 1977.

Production Capacity: Preliminary projections indicate that with annual increases of 1.5 percent in demand, 1 percent in supply, and 4 percent in input price inflation, feasible supply capacity of U.S. farms in 1985 could be double the 1967 output and two-thirds larger than the projected 1985 equilibrium output. This might require use of all noncropland with high potential for conversion and half of the noncropland with medium potential. This could require some major investments and provide a constraint in the ten-year horizon to 1985.

Palm Oil Study: An ERS analysis predicted that domestic per capita consumption of food fats and oils is likely to increase to 60 pounds by 1979/80. To meet this demand, imports are expected to remain strong but below the 1975/76 levels. World palm oil production is expected to continue expanding, reaching 4.7 million metric tons by 1980.

Supply/Demand Analysis of Grape Industry: Analysis of 16 months of wine consumption data from 7,000 households will facilitate projection of wine consumption patterns and wine grape prices. Work is also underway to estimate demand relationships for table and raisin grapes. The project is scheduled for completion in FY 1977. Results will help growers and processors to make adjustments to demand and supply conditions.

Soybean Demand: A study of the future of the U.S. soybean industry to 1985 was completed. Soybean production may increase 10 percent from 1975 to 1985, despite increased competition from Brazilian soybeans and rising palm oil imports. Exports, especially in the form of beans, are projected to increase.

Upcoming Research

There is little systematic knowledge of how price instability affects differently situated farmers and how farmers themselves might better adjust to instability. ERS will undertake a study to develop sources of information for studying the relation of yield risk to price and income risk, develop measures of the degree of risk aversion involved for selected farming enterprises, and estimate the impact of price and yield instabilities on supplies of selected commodities. ERS plans to analyze retail demand for vegetable oil products and derive the demand back to individual vegetable oils. New time series budget data for livestock enterprises coupled with inventory data will be used to estimate supply functions by type of production enterprise, which in turn will be weighed into a national supply estimate. Such an estimate of national production should possess a higher degree of accuracy than current estimates.

Improving Meat Price Spread Data: After analysis, a host of procedural revisions have been suggested for improving estimates of retail price spreads for beef and pork. Selected revisions will be made at one time so that the series can be revised back and continuity maintained. Current methods for estimating the impact of specials were found to be accurate.

Upcoming Research

Work will begin in FY 1977 on rebasing and revising the market basket statistics to reflect recent consumer purchase patterns. A survey of the formula feed industry is planned. Data on industry structure, production, and energy use will be collected from feed mills producing 1,000 tons or more. Information on the structure and product flow of wholesale fertilizer dealers will be developed; estimates of wholesale inventories and storage capacity will be made. Work will begin on an overview of the importance of river systems in transporting farm products, and agriculture's stake in policy decisions on river transportation, especially user charges.

ERS will begin a study of the economic impact of all Federal regulations on specific commodity subsectors. Current regulations will be appraised for need, overlap with other regulations, effectiveness, and costs and benefits to farmers, marketers, and consumers. Grain standards and price arrangements of Federal milk orders will be among the first studies.

ANALYSIS OF AGRICULTURAL TRADE AND POLICIES

This part of the program examines situations and developments around the world that have an impact on U.S. farm trade. It monitors U.S. and world agricultural trade by country and commodity, analyzes financial and monetary conditions in foreign nations, and develops long-term projections of agricultural supply and demand in world markets. Other research includes analyses of foreign weather and crop production relationships, and investigation of new or expanding foreign markets for U.S. farm goods. Forecasting of U.S. agricultural exports has become increasingly important to farmers and the agribusiness industry with the phenomenal increase in the value and volume of exports in recent years. ERS cooperates with the Foreign Agricultural Service to provide accurate, timely information on global agricultural conditions that is essential for program and policy decisions.

U.S. Agricultural Trade: ERS develops and publishes current statistics on U.S. and world agricultural trade. This activity provides USDA with information needed to monitor its progress toward goals of the Agricultural Export Mission. As a result of the rapid growth in U.S. agricultural exports, forecasts along with continuing analyses of the current status of U.S. agricultural trade have become increasingly important to American agriculture and the agribusiness industry.

Trade Analyses: Of particular note in FY 1976 were studies of: agricultural trade with the EC, OPEC, and other major markets; the impact of food aid programs in relation to commercial sales; the development of agricultural and food indices for developed and developing countries; and the identification and measurement of changes in world economic conditions and their impact on U.S. and world agricultural trade.

World Situation: In view of the widespread and growing interest in world food developments, publication of the annual World Agricultural Situation was increased to three times a year. This report provides a comprehensive analysis and outlook with particular emphasis on developments affecting the U.S. agricultural situation.

Food Export Potential: An ERS-FAS study was completed on foreign market activities and interests of U.S. food processors. The study found that more than 8 in 10 U.S. food processors are active or have plans to enter the foreign marketplace, and that a great diversity of food product forms are being exported or are available for export. A report to be published early in FY 1977 found that while 1974-85 world recession slowed growth in sales of foreign outlets of U.S.-owned fast-food franchises, the U.S. firms still anticipate much expansion by 1980.

Foreign Market Studies: Research was initiated on a series of foreign country studies focusing on designing an integrated system to be used for estimating future demand for principal farm exports. Cooperative agreements for in-depth studies on Australia, Iran, Japan, and Brazil were reached; work on these will be completed during FY 1977. Models for estimating grain production and feed consumption in several European countries were developed and are being refined.

World Supply, Demand, and Trade Projections: Updated projections for the world's grain-oilseeds-livestock economy to 2000 indicate that growth in agricultural production will depend on how agriculture is organized and stresses the importance of interrelationships between growth of population, income, and agricultural production. Summary results to 1985 and 2000 have been published, a comprehensive report is nearing completion, and detailed working materials are already being used by such organizations as the World Bank and World Food Council in their world food assessment work.

Oilseed Projections: At the request of the National Advisory Council on International Monetary and Financial Policies the future supply, demand, and price situation for vegetable oils was projected. The study provides an economic foundation for U.S. policy. Even with projected large increases in competitive vegetable oils, U.S. soybean production is expected to remain profitable.

World Fertilizer Situation: A recent ERS report significantly increased understanding of the world fertilizer supply/demand situation. In general the study reconfirmed the results of earlier ERS studies, and indicated adequate fertilizer supplies through 1981. The critical issue now is to increase fertilizer consumption. This work formed the basis for development of the official estimates in various international fora, and is widely used by the government, international organizations, and the fertilizer industry.

World Weather Data: A major research accomplishment during FY 1976 was the creation of a meteorological data base and its preliminary application in analysis of climate patterns. Preparation of the data base and initial research efforts were done under contract by the Department of Atmospheric Sciences, University of Missouri.

Upcoming Research

Publication of statistics on U.S. and world agricultural trade, as outlined above, will continue in FY 1977, and world food situation analyses will continue to be reported in the three World Agricultural Situations and related reports. Several country market studies will be completed and a system of import demand functions established in FY 1977. A study of the grain-livestock sector of the European Community will be completed in FY 1978.

An ERS research project jointly with the National Defense University and NOAA will develop an assessment of specific weather factors as they might behave in the future, and their potential effects on world agriculture and foods. This project will complement on-going contract research to assemble and analyze climatic data to determine whether meteorological phenomena show discernible patterns in time and space. Weather has been the most important factor influencing world production and prices. If accurate long range forecasts of weather could be made, the impact of weather on prices and supplies could be reduced.

RURAL DEVELOPMENT

This part of the program serves public officials and private interests concerned with improving rural life. Research includes identifying and evaluating demographic characteristics and trends; describing and evaluating trends in the rural labor force; measuring the socioeconomic and institutional well-being of rural people; assessing economic growth in rural areas; and finding ways to improve evaluation of rural services such as water, sewerage, medical care, education, housing, energy, and other local government services; and appraising adjustments necessary to enhance the well-being of nonmetropolitan people.

Tobacco Mechanization: Because of strong incentives, the harvesting of 85 to 90 percent of the flue-cured tobacco crop will be handled by mechanical systems by 1980. Labor requirements will drop as much as 23 to 72 percent, depending on the level of production. Reduction in job opportunities would be most prevalent in the Coastal Plains of North Carolina. Although limited impact on the area's economy is expected, existing programs and agencies may need to focus attention on employment and income needs of those most affected.

Impact of Energy Development in the Northern Great Plains: A study of the problems posed for local governments by economic growth resulting from coal development in the Northern Great Plains was begun and will continue for several years. The first published report describes State mineral tax systems and should be of value to States where mineral taxes are subject to revision.

Federal Outlays to Metro and Nonmetro Counties: Outlays totaling \$62 billion dollars in 1974, drawn from 182 programs, were higher per capita in nonmetro counties than in metro counties. However, if the highly rural-oriented agriculture and natural resource programs are omitted, metro counties would have a slightly larger per capita share of Federal outlays.

Industry Growth in Nonmetro Areas: Data obtained from Dunn and Bradstreet reveal the trend toward rural industrialization that emerged in the 1960's gained momentum in the early 70's. Growth in nonmetro industry was dominated by firms that were more likely to offer stable employment and were keenly aware of the comparative advantages offered by nonmetro county locations.

Decentralization of Population: The decentralization trend in U.S. population continued for another year. Analysis of county population estimates shows that the net flow out of the larger metro areas and into rural areas amounted to 1.6 million people in the 1970's through July 1974.

Estimates of Net Migration: A six-part report was issued that presented estimates for 1960-70 of the amount and rate of net migration by age, sex and race where relevant from or into every county. Work was done cooperatively, with the University of Georgia and supported jointly by the National Science Foundation and ERS. Demand for the published reports has been high.

Upcoming Research

Little information is available about financial problems of small, rural local governments. A study will analyze current nonmetropolitan local government revenue and expenditure patterns by size of government and for growing and declining areas, and examine problems of capital financing. An analysis of the impact of Federal income support programs on the well-being of small geographic areas will be undertaken.

Studies will be implemented to aid local decisionmakers in the Great Plains in providing rural law enforcement and primary health care delivery systems, two

commonly inadequate services. These studies will be patterned after similar ERS studies of ambulance service, fire protection and rental housing.

ERS and EPA have work underway to study methods of estimating population, employment, income, and new fiscal impacts of rapid growth. The studies will help all agencies involved with energy development to plan wisely and avoid some of the worst effects which result from unforeseen problems.

A study will be initiated to determine the nature and extent of changes that have occurred in the various components influencing total costs of housing to rural consumers, and will evaluate the impact of such changes on the ability of rural people to afford adequate housing. A study based on Social Security data will determine for growing rural and small town areas where the in-migrant workers are coming from, and how they compare with longer established workers. This should advance our understanding of the nature of the unprecedented migration now occurring.

NATURAL RESOURCE USE AND DEVELOPMENT

Rural land and water are precious national resources. This part of the program helps public and private decisionmakers conserve, develop, and manage rural land and water resources. ERS keeps inventories of the Nation's land and water resources, identifies resource ownership patterns and evaluates their impact on resource use, and estimates resources needed for agriculture, energy, urban expansion, and other uses. It also estimates the effects of natural resource policies and programs on community income growth, and improves procedures for natural resource planning, conservation, and development.

Projection of Land and Water Use: The nationwide analysis phase of the National Water Assessment was completed. ERS had the responsibility for developing and analyzing alternative futures for both 1985 and 2000. The current cropland base of approximately 400 million acres appears adequate to meet the projected demands for agricultural output; water supplies would be adequate except in some Western areas. If current policies and trends continue, harvested cropland would increase to 319 million acres in 1985 and 327 million acres in 2000; Dramatic shifts would occur in regional production patterns if environmental restrictions were imposed. Irrigated land was projected to increase by 4 million acres in 1985 and another 3 million acres by 2000.

Potential Cropland: Preliminary results indicate that, of land not now as cropland, 78 million acres have high potential for conversion to cropland. Another 33 million acres were estimated to have medium potential.

Alien Land Ownership: A report of alien ownership of U.S. real estate, submitted to the Department of Commerce, concluded that no additional restrictions need be placed on foreign investment in United States' real estate but that considerably better monitoring of such investments is needed. The report recommended continuation of the current policy of limited Federal restrictions on alien ownership without preemption of State restrictions.

Land Ownership in the Northeast: In order to determine more precisely what data are available from secondary sources on land ownership, a review of public land statistics, census of agriculture publications, U.S. forest surveys, and State or university-sponsored ownership studies for the Northeast was completed. It was concluded that it would be almost impossible to assemble a comprehensive set of data on total rural land ownership from presently available sources.

Water Law Studies: With the completion of Volume III, the public now has a current, comprehensive analysis of water rights laws in the U.S. arid and semi-arid regions.

Upcoming Research

A report will be prepared to summarize the extent and distribution of major land uses in the United States. Comparisons with earlier land use inventories will be made to document changes. This report will serve as a major reference document.

A series of regional studies will be conducted to determine factors explaining land use change. Regional focus: the East--cropland abandonment; the Delta--cropland reclamation; the Plains--irrigation expansion; the Northern Plains--competition for energy development.

Ownership is a significant factor in determining how land is used. Three studies will be undertaken to compile and analyze land ownership data from existing public records and explore techniques for obtaining ownership information from private owners. Also, cost/effectiveness studies will be conducted to evaluate innovative agricultural land preservation/use policies in selected States.

ENVIRONMENTAL QUALITY ISSUES

This part of the program studies environmental policies, practices, and standards relating to agricultural production. It determines the impact of various environmental standards on farmers and processors, and their effect on food and fiber supplies and prices; estimates costs of new pollution control technology and management practices; and evaluates ways that agricultural, recreational, and rural community needs can be fulfilled with minimal effect on the environment.

Controlling Nonpoint Pollution: The results of a study of the Iowa-Cedar River Basin showed substantial improvements in water quality could be obtained by altering production practices and adopting soil conservation practices. However, reducing soil loss to 10 tons per acre would increase production costs 2.5 percent while reducing soil loss to 3 tons per acre would result in production costs increasing 7 percent and require the construction of 223,000 acres of terraces.

Predator Control: This study is nearing completion. The economic value of sheep and lamb losses to producers and the sheep industry and regional economies have been estimated. Environmental impacts on wildlife species numbers were studied. Data for estimation of social impacts were obtained from a nationwide survey of peoples' perceptions and attitudes toward various aspects of predator control. A simulation model was developed for integrating and presenting the various impacts in an understandable form. Also, insurance program alternatives and direct indemnification were studied for their potential as risk reduction or compensation means for producers with high predation losses.

Point Source Effluent Guidelines: ERS and other agencies estimated that proposed EPA regulations for livestock feeders would affect nearly 100,000 operations and cost \$200 million for farmers to implement. Consumer prices would be affected, especially for dairy products. USDA published this assessment in January 1976. Final EPA regulations were modified, and may affect only 3,000 farmers.

Use of Chemical on Cotton: Between 1969 and 1974, the number of cotton acres treated with fertilizer rose 30 percent, and with herbicides, 40 percent. Spending by farmers for all chemicals used on cotton rose substantially, because of quantity increases, higher energy costs, and inflation.

Pesticide Related Injuries: A study was conducted to determine the extent of pesticide related injuries to field workers in California. Based on a survey of 1,500 farm workers it was concluded that the extent of pesticide related injuries is more serious than official State figures reveal. The size of the sample precluded

medical substantiation, but the questionnaire was designed to avoid biased responses. According to the most conservative measure the number of hours lost to pesticide injuries per 1,000 hours worked was 2.7 compared to the official figures of 0.006 for farm workers and 0.7 for pest control operators.

Alternative Pest Control Practices: Alternatives for controlling greenbug in grain sorghum were evaluated. The conventional aerial application of ethyl parathion, while effective, is believed to be environmentally harmful. Alternatives considered include ground spraying, lower than recommended dosages, use of scouting and low dosages, resistant varieties and no control. In all instances the resistant variety option provided the highest net return per acre and the no control option the lowest. The second best alternative was ground spraying.

Upcoming Research

For the Corn Belt and other selected areas, the economic, environmental and institutional effects of imposing selected regulations or adopting management practices to reduce the delivery of nonpoint source pollutants to surface water will be estimated.

ERS will be responsible for the overall evaluation and economic analysis of a USDA study of boll weevil eradication options. The economic impact of banning toxophene will be updated and the finding used to respond to the EPA reregistration process in February 1977. The economics of banning 2, 4, 5-T will also be assessed during the year. Five reports analyzing the costs and regulations related to waste management will be completed.

RESEARCH TO IMPROVE HUMAN NUTRITION

This part of the program offers information on the domestic food assistance programs, including the USDA School Lunch, Food Stamp, and Food and Nutrition Education Programs. It is largely financed by the Food and Nutrition Service.

In FY 1976 ERS completed a study of the impacts of the food stamp and school lunch programs on the economy, analyses of the expanded Food and Education Program, and estimated the number of persons eligible for child feeding programs.

In FY 1977-78 a study of the average costs of preparing and serving school lunches and school breakfasts will be completed. A pilot case study utilizing data generated by the Universal Product Code and the electronic front-end checkout will be completed comparing the kinds of food purchased by persons using food stamps and those not using food stamps in the same stores. Methodology will be developed for a larger study when more stores have the electronic front-end checkout installed.

ANALYSIS OF CONSUMER ISSUES

This part of the program is addressed to consumer interests and welfare. It provides information to help consumers in buying agricultural products, identifies needs and preferences of individual and institutional buyers, and assesses how well the food and fiber sector is doing in meeting these needs and preferences.

Consumer's Satisfaction and Concerns: A nationwide survey in April 1976 updated a survey of consumer satisfaction conducted in 1974 and sought information on how consumers are responding to a number of current concerns. Topics included household energy use, food and household health status, food shopping patterns, labeling information, open dating and unit pricing, away-from-home eating, and home canning. Preliminary results of the satisfaction component of the survey indicate a slight increase in consumer satisfaction over 1974. Among seven food groups tested, only

convenience foods registered a decline in satisfaction. Most consumers continued to express dissatisfaction with reliability and truthfulness of food ads.

Preliminary results of other components of the survey have been released, and are being used by consumer-oriented industries. The survey found, for example, that many people have modified their diet either because of an existing health problem or to prevent one. In response to higher energy prices, consumers said they trimmed heating, lighting and air conditioning, and made slight adjustments in kitchen energy use. The survey also found that nearly half of U.S. households gardened in 1975, and that one in three did some home canning or freezing. A full report is being developed to provide insight into how a representative cross-section of consumers views the food industry, specific food products, and product information.

Upcoming Research

The second phase of the consumer survey will be conducted this winter. Possible topics to be covered include large-volume beef purchasing practices; purchase, use and satisfaction with vegetable protein analogs; home gardening and home canning and freezing.

ERS will launch a new consumer-oriented quarterly periodical during 1977. As the successor of the National Food Situation, it will continue major elements of that report with expanded coverage of other ERS research results of interest to consumer affairs professionals, and will be the quick release outlet for the results of the continuing survey of consumer attitudes and behavior concerning food and food outlets and for other research activities of interest to consumers in ERS.

FOREIGN AGRICULTURAL DEVELOPMENT: TRAINING AND TECHNICAL ASSISTANCE

ERS coordinates efforts of 16 USDA program agencies, providing technical assistance and training to promote economic development of the agricultural sector in low-income nations.

1. Training Foreign Participants

This activity is a part of the U.S. foreign assistance program. The 1,400 AID and FAO sponsored participants trained and the 8,000 months of training they received in FY 1976 represented more participants but fewer training months than in FY 1975. Training of non-government sponsored participants was minimized, and dropped to 185 persons, from over 500 in FY 1975. During FY 1976, 27 specialized courses were conducted in the United States, including four new ones, and three were conducted overseas. Increased interest in the latter is one factor suggesting that delivery of overseas courses could be increased in FY 1977. To strengthen programming of participants and course effectiveness, individual participants were interviewed and all courses evaluated. The program was modified to incorporate improvements.

During FY 1976, ERS signed a multi-year agreement with AID/TAB to support project management training in four regional research centers in developing countries. The goal is to develop indigenous training teams at each center.

It looks as if total participant numbers in FY 1977-78 may be similar to FY 1976, while training months may be less. The number of courses taught overseas may be up by two or threefold. An effort will be made to link training activities with ongoing technical assistance programs overseas. This will mean more overseas delivery of special courses as well as arrangements for follow-up consultations with participants.

2. Technical Assistance and Development

Some 300 USDA specialists were involved in the Technical Assistance Program in FY 1976. Highlights of their activities are given by region:

Africa: USDA activities continued at the FY 1975 level. After 10 years, the West Africa Major Cereals project in Nigeria was phased down. USDA is leaving this project, as well as its companion project in East Africa, after establishing host country capability for continuing to build on research, and after disseminating improved grain varieties and cultural practices.

An increasing number of requests are coming for soil and water conservation. USDA participation in this area will increase. Assistance is also increasing in the areas of crop reporting and other economic data accumulation and planning. The importance of economic analysis and information systems grows as African nations increase their trade with the rest of the world.

Asia: The number of USDA experts doubled to 18 in FY 1976, and many specialists completed short-term assignments. The Precision Land Levelling Project in Pakistan continued and was expanded to include the Northwest Frontier Province. The SCS team in the Punjab and Sind Provinces provided leadership in classroom and on-the-job training, and farmer demonstrations in land levelling for over 350 persons.

Latin America: The trend in short-term assignments have remained steady in FY 1976 with long-term assignments up slightly. A major thrust is analysis and assessment of the agricultural sectors of individual countries. This work has resulted in improving project plans, loans, and technical assistance and training for host country institutions.

The Central America Research-Information Project was initiated in Costa Rica. This project was designed to help the Inter-American Institute of Agricultural Sciences to build a viable reservoir of research information and data for all countries in the region.

Middle East: There were five resident personnel and 17 short-term assignments in FY 1976. The first resident expert arrived in Saudi Arabia to start implementing the requests under the Joint Commission on Economic Cooperation agreement. Staffing for the Central Laboratory, as well as planning work for agriculture and water began. FY 1977 will see an increase in personnel in planning, marketing, statistics, and extension. USDA sector assessment team prepared a report for the Egyptian Ministry of Agriculture which is expected to provide the basis for USDA technical assistance in FY 1977. The work in Jordan will continue through FY 1977, and will focus on dryland cereal production, policy-oriented analysis, and internal planning for the Ministry of Agriculture.

Obligations and Man-Years In FY 1976-1978 for the Economic Research Service
are Distributed by State as Follows:

State	FY 76 Oblig.	FY 76 My	FY 76 Oblig.	FY 76 My	FY 77 Oblig. (est)	FY 77 My	FY 77 Oblig. (est)	FY 78 Oblig. (est)	FY 78 My . (est)
Alabama	162,900	2	18,300	1	171,045	2	171,045	171,045	2
Alaska	13,800	---	1,400	---	14,490	---	14,490	14,490	---
Arizona	101,300	4	24,900	1	106,365	4	106,365	106,365	4
Arkansas	343,450	16	87,500	4	367,185	16	367,185	367,185	16
California	468,350	19	105,500	5	493,185	19	493,185	493,185	19
Colorado	233,250	12	44,300	3	248,115	12	248,115	248,115	12
Connecticut	300	---	---	---	315	---	315	315	---
Delaware	800	---	4,800	---	840	---	840	840	---
District of Columbia	22,602,101	742	6,493,063	186	24,700,525	749	24,700,525	24,700,525	766
Florida	114,800	5	31,000	1	120,540	5	120,540	120,540	5
Georgia	178,400	8	55,000	2	187,320	8	187,320	187,320	8
Idaho	8,700	---	---	---	9,135	---	9,135	9,135	---
Illinois	171,100	7	57,700	2	179,655	7	179,655	179,655	7
Indiana	141,300	5	61,700	1	148,365	5	148,365	148,365	5
Iowa	36,100	3	2,700	1	37,905	3	37,905	37,905	3
Kansas	140,600	5	23,300	1	147,630	5	147,630	147,630	5
Kentucky	30,600	1	7,700	---	32,130	1	32,130	32,130	1
Louisiana	91,300	5	19,900	1	95,865	5	95,865	95,865	5
Michigan	445,950	19	93,400	5	469,665	19	469,665	469,665	19
Minnesota	97,000	4	25,600	1	101,850	4	101,850	101,850	4
Mississippi	206,300	8	49,300	2	216,615	8	216,615	216,615	8
Missouri	85,000	4	24,900	1	89,250	4	89,250	89,250	4
Montana	9,000	1	12,400	---	9,450	1	9,450	9,450	1
Nebraska	378,200	18	93,500	5	397,110	18	397,110	397,110	18
New Hampshire	64,000	3	23,000	1	67,200	3	67,200	67,200	3

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continued --

Obligations and Man-Years In FY 1976-1978 for the Economic Research Service
are Distributed by State as Follows: (continued)

State	FY 76 Oblig.	FY 76 My	FY TQ Oblig.	FY TQ My	FY 77 Oblig. (est)	FY 77 My	FY 78 Oblig. (est)	FY 78 My	FY 78 My (est)
New York	76,700	2	27,800	1	80,535	2	80,535	2	2
North Carolina	104,200	3	25,100	1	109,410	3	109,410	3	3
North Dakota	14,100	3	7,700	1	14,805	3	14,805	3	3
Oklahoma	224,500	9	72,400	2	235,725	9	235,725	9	9
Oregon	260,900	11	76,500	3	273,945	11	273,945	11	11
Pennsylvania	341,400	21	100,000	5	358,470	21	358,470	21	21
South Carolina	96,500	3	22,200	1	101,325	3	101,325	3	3
South Dakota	23,300	1	11,800	---	24,465	1	24,465	1	1
Tennessee	27,900	1	7,100	---	29,295	1	29,295	1	1
Texas	177,100	9	72,500	2	185,955	9	185,955	9	9
Utah	76,700	3	24,200	1	80,535	3	80,535	3	3
Vermont	200	---	100	---	210	---	210	---	---
Virginia	31,900	1	8,500	---	33,495	1	33,495	1	1
Washington	120,300	4	26,000	1	126,315	4	126,315	4	4
West Virginia	22,800	1	10,700	---	22,940	1	22,940	1	1
Wisconsin	126,500	6	30,400	2	132,825	6	132,825	6	6
ERS, Total	27,770,203	971	7,883,863	244	30,222,000	976	32,120,000	993	993

PASSENGER MOTOR VEHICLES

The 1978 Budget Estimates propose the purchase of 2 replacement passenger motor vehicles.

The passenger motor vehicles are used (where use of common carrier or G.S.A. vehicles is not feasible) for necessary field travel in carrying out the mission of the Economic Research Service.

Replacement of passenger motor vehicle. In FY 1977, 2 of 5 vehicles will be disposed. In FY 1978, replacement of 2 of the remaining 3 vehicles is proposed. These 3 vehicles are located in Pullman, Wa., Stoneville, Ms., and Clemson, S. C. All vehicles proposed for replacement have a mileage of more than 60,000 and are more than 6 years of age.

Age and mileage for passenger vehicles on hand as of June 30, 1976, is as follows:

Age Data			Mileage Data		
<u>Age-Year Model</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>	<u>Lifetime Mileage (thousands)</u>	<u>Number of Vehicles</u>	<u>Percent of Total</u>
1971 or older	4	80	100-120	1	20
1973	1	20	30-100	1	20
Total	<u>5</u>	<u>100</u>	60- 30	2	40
			40- 60	- -	- -
			20- 40	1	20
			Total	<u>5</u>	<u>100</u>

FARMER COOPERATIVE SERVICE

Purpose Statement

The Secretary of Agriculture established the Farmer Cooperative Service (FCS) in December 1953, after Congress, in the Farm Credit Act (Public Law 202, August 6, 1953), transferred its functions from Farm Credit Administration to the Secretary of Agriculture.

The Secretary has assigned to the Service (1) functions under the Cooperative Marketing Act of 1926 (7 U.S.C. 451-457), and (2) functions that relate to the economic and marketing aspects of farmer cooperatives under the Agricultural Marketing Act of 1946 (7 U.S.C. 1621-1627).

Farmer Cooperative Service's fundamental purpose is to help farmers help themselves.

FCS conducts studies to support cooperatives that market farm products, purchase production supplies, and perform related business services. The Agency provides technical assistance and research to improve cooperative performance.

Technical assistance is given on organizing new cooperatives, merits of merging cooperatives, changing business structure and developing strategies for growth.

Applied research is conducted to give farmers relevant and expert assistance pertaining to their cooperatives. Studies concentrate on financial, organizational, legal, social, and economic aspects of cooperative activity in U. S. agriculture.

FCS efforts center on providing rapid response and leadership to help build more effective cooperative operations in the changing economic environment in which the family farmer operates.

The Service is headquartered in Washington, D. C., and has no field offices.

Available Funds and Man-Years

1976 and Estimated, 1977 and 1978

Item	Actual		Estimated		Budget Estimate	
	1976		: Available, 1977 :		1978	
	Amount	: Man-Years :	Amount	: Man-Years :	Amount	: Man-Years :
Farmer Cooperative Service....	\$2,559,000	: 85	\$2,724,000	: 86	\$2,920,000	: 89
Other Federal Funds.....	39,305	: 2	150,000	: --	150,000	: --
Non-Federal Funds.....	59,463	: 1	74,000	: 1	65,000	: 1
Total, Farmer Cooperative Service.....	2,707,773	: 88	2,943,000	: 87	3,135,000	: 90

End-of-Year Employment:	1976 <u>Actual</u>	1977 <u>Estimated</u>	1978 <u>Estimated</u>
Permanent full-time.....	81	81	81
Other.....	3	6	6
Total.....	<u>84</u>	<u>87</u>	<u>87</u>

FARMER COOPERATIVE SERVICE

Appropriation Act, 1977	\$2,589,000
Budget Estimate, 1978	<u>2,920,000</u>
Increase in Appropriation	<u>+331,000</u>

Adjustments in 1977:

Appropriation Act, 1977	\$2,589,000	
1977 Supplemental Appropriation for		
pay costs	<u>+135,000</u>	
Adjusted base for 1978		2,724,000
Budget estimate, 1978		<u>2,920,000</u>
Increase over adjusted 1977		<u>+196,000</u>

SUMMARY OF INCREASES

(On basis of adjusted appropriation)

	<u>1977</u>	<u>Increases</u>	<u>1978</u> <u>Estimate</u>
Public policies affecting cooperatives	--	+\$100,000	\$100,000
GSA space.....	\$100,000	+32,000	132,000
Other operating costs:			
Increased pay costs.....	135,000	+3,000	138,000
Working Capital Funds Services.....	(124,000)	+11,000	11,000
Other increased costs.....	--	+50,000	50,000
All other.....	<u>2,489,000</u>	--	<u>2,489,000</u>
Total available.....	<u>2,724,000</u>	<u>+196,000</u>	<u>2,920,000</u>

PROJECT STATEMENT

(On basis of adjusted appropriation)

Project	1976	1977 (estimated)	Increase	1978 (estimated)
1. Research and technical assistance for agricultural cooperatives	\$2,460,091	\$2,724,000	+\$196,000(1)	\$2,920,000
Unobligated balance	98,909	--	--	--
Total available or estimate ..	<u>2,559,000</u>	<u>2,724,000</u>	<u>+196,000</u>	<u>2,920,000</u>
Proposed Supplemental for				
pay increase costs	--	-135,000		
Total, appropriation	<u>2,559,000</u>	<u>2,589,000</u>		

EXPLANATION OF PROGRAM

Farmer Cooperative Service conducts studies relating to cooperatives engaged in the marketing of farm products, purchasing of production supplies and supplying related business services. The Agency program is directed toward providing technical assistance to cooperatives and research to improve cooperative performance.

Technical assistance is provided in response to problems that may come to FCS from farmers directly or through the management of boards of directors of cooperatives composed of hundreds and in some instances thousands of farmers. Help is given on the formation of new cooperatives, the merits of merging cooperative organizations, changes in business organizations and future growth or development, and the development of more viable relationships between cooperatives and other businesses and institutions. The full range of organization and management problems confronting cooperatives is covered by the FCS technical assistance program.

Applied research is conducted to give farmers relevant and expert assistance pertaining to their cooperatives. Efforts are made to identify major adjustment problems facing cooperatives and assemble the research needed to address them. Studies concentrate on financial, organizational, legal, social, and economic aspects of cooperative activity.

Statistical data are collected to detect changes in structure, operations, and growth trends. Data help identify and support applied research and technical assistance activities.

The Agency serves as a central storehouse of data about farmer cooperatives in the United States. This information is communicated to the farmer or member through a variety of publications.

FCS efforts center on providing immediate response and leadership for more effective and efficient cooperative operations in the changing economic environment in which the family farmer operates.

In fiscal year 1978, FCS plans to emphasize work on the following programs: (1) cooperative policy, (2) cooperative development, (3) cooperative transportation and distribution systems, and (4) cooperative livestock marketing.

Types of projects:

Technical Assistance studies in:

- Improving Organizational Structures & Marketing Systems
- Feasibility of Economic Integration
- Improving Cooperative Operations
- Coordinated Milk Marketing
- Minority and Craft Marketing Problems

Research studies in:

- Financial Profile of Farmer Cooperatives
- Expanded Cooperative Livestock Marketing
- Coordinated Transportation & Distribution System for Cooperatives
- Bargaining and Pricing by Cooperatives

JUSTIFICATION OF INCREASES

(1) An increase of \$196,000 for research and technical assistance for agricultural cooperatives consisting of:

- (a) An increase of \$3,000 for increase pay cost effective in FY 1977.
- (b) An increase of \$11,000 for Working Capital Fund Services.
- (c) An increase of \$32,000 for space rental costs pursuant to P.L. 92-313.
- (d) An increase of \$50,000 for other increased costs.

Need for Increase: During the past few years the impact of rising costs, particularly for printing and travel, has forced the agency to curtail various program activities. For instance, in FY 1975 FCS budgeted \$112,000 for use in entering agreements with universities for cooperative research work. In FY 1976 it was necessary due to rising costs to reduce the cooperative program to \$50,000. Approval of the requested increase will help the agency to meet some of these increased costs and restore the cooperative program to a more reasonable level.

(e) An increase of \$100,000 for public policies affecting cooperatives.

Need for Increase: The increasing public concern relative to cooperatives and the lack of information and data on such subjects as cooperative size, organization, membership representation, and overall economic performance

makes it imperative that a substantial effort in the cooperative policy area be undertaken as soon as possible. This basic information is needed to aid public and cooperative policymakers to achieve equitable treatment for cooperatives and their members.

Farmer cooperatives have the basic objective of returning economic benefits to their patrons on the basis of their patronage rather than on the basis of investment. Public policymakers have accorded them differential treatment to assure that their unique objective will be met and to encourage their growth. Because cooperatives' economic benefits flow to those who use the cooperatives' services, policymakers are concerned about the nature and scope of a cooperative's operations. They are concerned about availability of credit, proper handling of earnings and losses, the methods of cooperative membership control by an equitable treatment of patrons.

Information is needed regarding corporate involvement in cooperatives and the possible implications thereof.

Plan of Work: The emphasis placed in a particular policy area may vary over time. With the various questions being raised concerning cooperative membership and growth, FCS feels a conscious economic research effort should be made to clarify these and thereby aid the Department, cooperatives, and the public sector in better serving the public interest. The requested amount of \$100,000 for FY 1978 would be utilized to support two professional and one clerical employee in this area of work. This staff would conduct studies on cooperative membership and policy to provide USDA and the Agency with basic information to make informed decisions affecting cooperatives and their operations.

The studies would provide information on cooperative share of the market, types of securities they issue, their size, impact on competition, pricing practices, memberships, bargaining and market power, and the methods they use to achieve growth and economies of scale.

STATUS OF PROGRAM

Farm families use the cooperative form of business as extensions of their farm enterprises. Through cooperatives, farmers jointly purchase production supplies, process and market products, and obtain related services. By working together in cooperatives, farmers are able to reduce costs and obtain greater returns at the market place. Thus, they are able to provide Americans with the world's most plentiful, highest quality, and least costly food and fiber supplies.

Farmer Cooperative Service--through research and technical assistance programs--advises farmers, co-op officials, and other rural people on how to improve or expand existing cooperatives, and, when needed, to develop new cooperatives.

FCS is prepared to work with farmers who use the latest modern techniques and management skills, and with those with limited resource and management skills. The agency is prepared to commit one specialist or a substantial team to projects. It may conduct a project by itself or work with State and other Federal agencies, universities, or with one or a group of cooperatives. Because of its versatility and flexibility, FCS serves as the national focal point of activity involving farmer cooperatives.

Current Activities:

A financial profile of farmer cooperatives is being updated. The study will obtain 1975 data on the financial structure, equity capital, borrowed capital, and distribution of net margins and determining changes since 1970. National estimates will be prepared for all marketing and supply cooperatives by major commodity types in each of the 12 Farm Credit Administration districts. The district banks for cooperatives are assisting with the study.

Redeeming equities of inactive members is necessary in all cooperatives and a problem in some. Redeeming the oldest equities which active members have in revolving capital funds sometimes gets off schedule and presents membership problems. FCS is nearing completion of a study of redemption practices of agricultural cooperatives which will indicate the magnitude of the problem and various ways in which cooperatives handle it. An article was published in the August issue of the agency's magazine which discussed redemption criteria based upon an analysis of bylaws and board policies.

Continued producer and cooperative interest in livestock marketing research, technical assistance, and education by FCS has been assured by lingering economic losses to livestock producers as a result of low product prices and high feed costs. Even though cooperatives market less than 15 percent of the livestock and process only 2 percent, many producers are looking toward cooperatives as a possible solution to their marketing problems. FCS has recently embarked on a major multi-agency task force effort to determine the future role of cooperatives in the red meats industry. Our study of alternative cull cow marketing systems in the Northeast has led to further assistance to producers in that region. A similar study discussed alternatives for producers in the Southeastern States. Also, FCS has developed the theoretical framework for a contract integrated, cooperative cattle marketing system. Finally, FCS will continue to work closely with sheep and lamb producers in an effort to develop expanded telephone auction marketing systems.

Dairy cooperatives on a national basis are facing major problems in considering structural changes. The basic concern is developing the degree of coordination needed to keep milk supplies equated to market needs at minimum costs. The organizational concern is to develop cooperatives that have sufficient size to achieve coordination and maintain homogeneity of interest within the organization. Among the concerns that need specific attention are equitable treatment of members, relationship of non-members in the total market responsibility, the possible role of market orders, and the method of achieving compatibility between producers of manufacturing milk and milk for fluid uses. The current effort of FCS will be to develop guidelines for consideration by cooperatives as they undertake to make further organizational changes.

Coordinating physical distribution and transportation offers opportunities for reducing costs. In a detailed analysis of product flows of cooperatively processed fruits and vegetables, opportunities became evident for joint cooperatively owned can manufacturing operations. Specific plans are now being implemented to obtain these savings. In addition, there are further opportunities to reduce costs and improve services to customers by jointly owning new cooperative distribution centers or expanding existing facilities. Cooperatives are taking increased responsibility for providing transportation to meet certain sales commitments. This has required ownership or leasing railcars. An FCS study of these arrangements indicates cooperatives cannot fully utilize these railcars. As a result, cooperatives have suffered substantial losses on their ownership and leased railcar operations. FCS is exploring the possibilities of conducting the use of these railcars through some type of pooling arrangement among cooperatives. Sharing of costs, possible participation in earnings or losses as well as maintaining the capability to meet sales commitments will require detailed study. FCS is now developing this information.

Currently, FCS' cooperative development program is involved in assisting broiler growers in Maryland, Alabama, Arkansas and California in developing and evaluating plans to have cooperatively owned operations. The interest in grower-owned cooperative broiler operations reflects the basic philosophy that growers want a viable option to the present system. The role of FCS has been to assist these growers in objectively analyzing the economic feasibility rather than make the decision on philosophical or emotional basis.

A group of Indians in North Carolina are considering organizing to provide tobacco warehousing and marketing. This will represent the initial efforts of these Indians in providing their own marketing program.

Grape growers in Ohio, New York, and New England are interested in considering cooperatives as a possible means of solving their marketing problems. The options under consideration are wineries and juice. FCS will assist them in evaluating the alternatives by developing economic feasibility studies where required. As the cooperative development efforts are initiated, FCS will provide some assistance in the implementation of the program. FCS will, however, decrease this assistance as the cooperatives develop the necessary operational experience.

Fishery cooperatives are about where livestock and crop marketing cooperatives were a half century ago. Most fishermen are in need of strong associations to market their catch and to provide them with essential supplies and equipment. Recent changes in regulations of production credit agencies now gives them a new source of cooperative credit. FCS recently issued a research report which described the policies, operations, and benefits of a few selected fishery cooperatives. The agency also has provided technical assistance to three groups of fishermen interested in forming cooperatives.

Over the past few years, the export market has become a prime determinant of producer income. With only a few exceptions, farmer cooperatives have not been able to obtain the necessary volume or marketing expertise to be competitive with the large international trading firms. The efforts of FCS for the next several years will therefore concentrate on inducing structural change of the kind and degree necessary to aggregate cooperative resources for more effective export activity. Initially, this requires an identification effort to determine the present state of the arts and the specific commodities and geographical location of cooperatives with the greatest potential to penetrate export markets. FCS is presently conducting a survey of exporting cooperatives as a first step in the identification process.

Outside promoters, by forming a management or consulting company, have been engaging in "pseudo" cooperative organizational activity recently in 8 to 10 states. The promoters use the same reasons for starting a cooperative as farmers themselves have used. However, the attempted "pseudo" cooperatives are usually tied to the management company by contracts calling for management fees plus high commissions for selling debt-type securities. As a result of fraudulent practices by the promoters, thousands of farmers have lost millions of dollars. During the past year, FCS, working closely with State securities agencies, has assembled information on

these schemes and presented it at meetings of cooperatives and university personnel and published it in the Agency's magazine for cooperative leaders. As farmers have become alerted to these "promoter" cooperatives and as State agencies have exposed promoters' fraudulent practices, most of the activity has ceased. In a few cases, however, business reorganization has taken place and revised financing programs developed to satisfy legal requirements.

<u>Research and Technical Assistance</u> <u>for Agricultural Cooperatives:</u>	<u>District of Columbia</u>	
	<u>Obligations</u>	<u>Man-Years</u>
1976 Actual.....	\$2,519,559	86
TQ Actual.....	725,136	22
1977 Estimate.....	2,798,000	87
1978 Estimate.....	2,985,000	90

